The Papers of the
Bibliographical Society of America

THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS

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THE BAKER & TAYLOR COMPANY
NEW YORK

THE CAMBRIDGE UNIVERSITY PRESS
LONDON

THE THOMAS C. LOTHIAN COMPANY
MELBOURNE

THE MARUZEN-KABUSHIKI-KAISHA
TOKYO, OSAKA, KYOTO, FUKUOKA, SENDAI

THE COMMERCIAL PRESS, LIMITED
SHANGHAI

The Papers of The Bibliographical Society of America

VOLUME TWENTY-FIVE

1931

THE UNIVERSITY OF CHICAGO PRESS
CHICAGO · ILLINOIS

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CHICAGO, ILLINOIS, U.S.A.

The Manuscript Atlases of Battista Agnese
By Henry R. Wagner
Pages 1–110

Russian Expansion to America: Its Bibliographical Foundations
By Robert J. Kerner
Pages 111–129

Bibliographical Guides for the Study of English
By Arthur G. Kennedy
Pages 130–180

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THE MANUSCRIPT ATLASES OF BATTISTA AGNESE

By HENRY R. WAGNER

IN RECENT years a number of hitherto-undescribed atlases, mostly undated but of undoubted Agnese origin, have come to light. An added interest is being taken in his work due chiefly no doubt to its outstanding artistic merit. One of his complete and well-executed atlases stands on a par with the illuminated manuscripts of his time. My attention was first called to them in connection with historical and cartographical investigations of exploration on the northwest coast of America, by finding that he was the first cartographer in Europe now known to have depicted the discoveries of Francisco de Ulloa in 1539 and 1540. It subsequently developed that still earlier he had been also the first to portray those of Marcos de Niza. These constitute proofs, certainly of enterprise, and warrant a more thorough study of his work than has hitherto been made. The result of this study is embodied in the following pages. While engaged in it I have had occasion to seek the assistance of numerous librarians who I am thankful to say have responded most cheerfully and graciously. I am particularly indebted for information concerning atlases in Italian libraries to Mr. Otto Lange, of Florence, Italy, who has obtained for me numerous photographs, personally examined a number of atlases, and interviewed various persons in my behalf in search of additional information. Professor Giuseppe Caraci, of Milan, has also most kindly lent me his assistance. I also wish to extend my special thanks to Colonel John Bigelow, of Washington, for placing at my disposal the abundant information and nu-

merous photographs of maps which he had collected, and to Mr. Worthington C. Ford, the head of the Library of Congress Commission now in Europe. The photographs of some of the maps in a few atlases obtained by Dr. L. C. Karpinski in Europe a few years ago have proved very useful. The Library of Congress has kindly lent me photostats of several of the atlases. The reproductions at the end are from the atlas in the Huntington Library, HM 26.

The Manuscript Maps of Battista Agnese

All we know about Battista Agnese is found on his own maps. He describes himself as a Genoese and dates his maps from Venice. The Italian geographers who have manifested some interest in his work have so far failed to unearth a single other fact about his life, and the investigators in the Venetian archives seem never to have found his name mentioned. This is the more remarkable because he was one of the most prolific map-makers of the sixteenth century. There are at present in existence about sixty atlases either signed by him or which can be attributed to him on safe grounds, containing on an average over ten maps each. Allowing for the natural wastage of time and the fact that there are no doubt others in existence which have not yet been located, it might not be amiss to conjecture that he produced at least one hundred during his period of active work, which extended from about 1536 to 1564. It is quite likely that the first in my list was produced before 1536, but those assigned to him under the years 1527 and 1529 as being in the British Museum do not exist. In fact, it is obvious that he could not have produced even the earliest one I attribute to him much before 1536.

Portolan charts probably originated at the time of the crusades. They differ entirely from the maps of Ptolemy and no doubt embody the sum total of the knowledge that had then been attained of the coasts of the waterways of Europe over which vessels were accustomed to sail. Very early, if not from

the beginning, they were characterized by a system of lines radiating from one or more points, depending on the size of the charts. These lines represent the thirty-two points of the compass, that is, the eight so-called main winds and twenty-four quarter winds. They are frequently referred to as "rhumb" or "loxodromic" lines, but I prefer the term "direction" lines, because in my judgment that is the purpose they served. Much speculation has been indulged in regarding their object, some being of the opinion that they served in the construction of the charts, and others in navigation. In the accounts of the methods of construction of charts which have come down to us, no indication appears that they were employed in the actual making of the charts and no reference can be found to my knowledge in any extant journal of sixteenth-century navigation of any use being made of them in sailing a ship. The fact seems to be that they were simply a convenience to enable the navigator to plot his course. A line could always be found on his chart parallel to the one he pursued, which was never set closer than by some quarter-wind. By the use of parallel rulers any given course could therefore easily be laid down. As no method had been discovered at that time of correctly calculating longitude it was the practice to estimate the position of a vessel by means of the courses followed and the distances run in twenty-four hours, with the aid of observations for latitude. The course was laid down on the chart, the distance then measured on it, and this was corrected according to the latitude found, with such other corrections as were made necessary because of currents, deviations, etc. The point fixed on was then pricked on the chart, a practice still in use. All Agnese's early maps, except the oval world-maps, are covered with these lines, the points of junction being usually a painted windrose, or as sometimes called a "compass rose" with the thirty-two points from which the lines emanate, constituting what I hereafter refer to as "portolan style."

The atlases of Agnese, however, were never intended for use in navigation, any more than those of his contemporaries and successors who made portolan atlases, and there is no evidence that any was ever so used. A pilot was generally provided with only such charts as were necessary for the particular voyage in which he was engaged. A chart for such a purpose, drawn on vellum as these are, would have been the grossest extravagance. Further, one to serve for crossing the Atlantic, for example, must have been large enough to plot on it the course run by a vessel during three or four months, the time frequently employed on such voyages, and on the return it was customary to turn them in to the owners or to the government. What Agnese produced are not charts but maps of the regions depicted drawn in portolan style to conform to a long-standing tradition. They represent the current knowledge of geography as depicted on portolan charts in the early period. He adopted the portolan style because he copied such charts, and when he came to produce land maps he continued to employ it, perhaps for the sake of uniformity . Many of his later maps in this style have so little sea shown on them that no one could imagine that they could ever have been used in navigation.

It is a rather trite remark that his atlases can be more properly classed as works of art than as cartographical documents. Most of those who have expressed such opinions have been interested in the discoveries on the northeastern coast of North America. Fault has been found with him because he did not improve his map of this part of the world by delineating the discoveries of Jacques Cartier. A similar criticism has been directed against him for his delineation of the west coast of South America where an unfilled gap will be found on all his maps of the Pacific so far discovered. This gap was also left on Spanish maps, although on their later ones it became somewhat smaller. The reason is plain. The coast between Chile and the Strait of Magellan was not explored even casually until 1558 and 1559,

and the trend of what was known of it did not coincide with that laid down on most of the imaginary maps. As a result we find on some maps of the period two coast lines, an imaginary one complete, and the real one as far as it had been discovered from the north to the south. It is no wonder that an Italian who had no first-hand means of information regarding the discoveries in Spanish America should have been puzzled by these contradictions and concluded to make no change. All of his imaginary geography is depicted on his oval map of the world, a sort of sublimated Ptolemaic representation of the earth, modified by the discovery of America, South Africa, and the Far East. There was no originality in Agnese's cartographical work; he was simply a copyist like most of the other Italian makers of portolan atlases of the time. For his map of the world he had originally a Spanish model, and he adhered to this with later modifications to the end of his career. Whatever cartographical value his work has lies in the perpetuation of these and other models, some of which are now lost to us. For his oval map he was indebted to Ptolemy and for the normal portolan to some previous author. There is no reason to suppose that he ever saw the maps produced by the French cartographers in the fourth decade of the century.

Much has been written on the quality of his work as an artist. Many of his maps are colored with great taste, and the completed zodiacs which he inserted in many of his atlases are real works of art. In only three atlases, I believe, do the maps have borders. It is much safer to assign these borders to a contemporary or later artist than to him, as the little decoration displayed on any of the maps in these atlases indicates that he then took little interest in this matter. I am even inclined to think that he never painted in the coats-of-arms which figure at the beginning of many. The number of shields lacking the chevron seems to point distinctly to the fact that he provided one of these for most of his atlases and left it vacant for the

purchaser to fill in as he pleased. It has been suggested by Konrad Kretschmer that he had his atlases bound himself in what he terms a characteristic Agnese binding. It is true that some of these bindings are almost identical, and there may be more which I have not seen. Several of his unquestioned works, however, while bound in what might be called a reddish-brown morocco, have different styles of tooling. All binders have some favorite method of binding and tooling their books, varying this from time to time to suit the taste of the purchaser. I have in my own possession the 1548 Italian edition of Ptolemy in an original binding, which does not differ in any essential respect from several on Agnese's atlases. To use bindings on books as proofs of the authorship of the contents is about as rash as the attempt so frequently made to date them from these or from coats-of-arms found in them. The general character of the work, the peculiarities of ornamentation, the geographical delineations, and the nomenclature are in the case of maps much the safer guides.

A general survey of his work discloses the fact that it can be divided roughly into three epochs, the first characterized by large maps, the second by small ones, and the third by an increased number in his atlases. None in the first two series is decorated otherwise than with windroses, except the oval map which usually has twelve windheads, and no atlas contains more than twelve maps. A new map of Italy appeared in 1545 in an atlas now in the Marciana in Venice, the forerunner of the later land maps. In this case, however, it is simply an enlargement of part of the normal map of the central Mediterranean, in purely portolan style similar to that of the other maps in the atlas and to all those which had previously appeared, and has no other decoration than the windrose in the center. Sometime after this and before 1553 the scope of the atlases was enlarged by the insertion of land maps and the number was increased to fourteen or even more. The map of Italy which first appeared

in 1545 is now replaced by a land map pure and simple although still in portolan style. We also find land maps of Spain, Palestine, Russia, Scandinavia, and even special maps of parts of Italy and other countries. These with one or two exceptions still retain the portolan style, and in the case of the map of Northwest and Central Europe have the original blank space in North Europe filled in with geographical and sometimes historical data. Furthermore, in this period we begin to see some artistic ships and other trifling decorations on some of the maps. Perhaps this was due to an increase in their size as many of these measure fifty or more centimeters in length. Several atlases were issued later with maps of islands in the Mediterranean, and after 1553 these became the rule. One is tempted to believe that the change of plan was due to the appearance of the Italian edition of Ptolemy in 1548. In that work new maps of Spain, Italy, Scandinavia, Russia, and other parts of Europe were issued, as well as of a few islands in the Mediterranean. There are features of Agnese's land maps which bear a certain resemblance to some found on corresponding maps in this Ptolemy. The introduction of the islands seems to have been solely for the purpose of making the atlases more complete. In the last of this series dated 1559, if that be the last, the maps now even have titles in imitation of the engraved maps in the Ptolemy atlas. The latest one known, that of 1564, simply comprises the normal portolan, and an oval world-map like the earliest one issued except for the inclusion of California and a single route around the world. We do not know whether Agnese now died or became incapacitated for work, but one thing is certain—the period had arrived when atlases much more highly decorated than his were being put out by his competitors and engraved maps were being turned out in ever increasing numbers.

One encounters several difficulties in the study of his works. It is over a hundred years since they began to attract some at-

tention, and during that time a number of them have been described by different writers who usually had different objects in view. One was interested in one part of the world, one in another, and others simply in the construction of the maps or in their decorations. Naturally, each stressed the point particularly interesting to him, either passing over the others entirely or else giving the most superficial account of them. So little interest had some in most of the maps that they even neglected to state their number, and, even when they did, little reliance can be placed on their statements, as they looked on them as manuscripts or works of art, and consequently in describing them counted the number of leaves without giving a detailed list of the contents. Of course, where atlases are still in existence and can be consulted, it is possible to solve these difficulties, but aside from the fact that some of them have disappeared, it is hardly feasible to travel all over Europe for the sole purpose of inspecting the originals. In many libraries photostats can be obtained, but in others this is not possible and I have even found it difficult at times to secure photographs. In most cases, the photostat or photograph is as good as the original, certainly of cartographical documents per se, but in attempting to identify decorated documents which are both unsigned and undated, it is sometimes a great help to be able to see them in their original colors. For instance, one of the striking features of some of Agnese's maps of South America is a chain of mountains in the northern part done in gold. It would hardly be safe to say that all maps having mountains in South America so decorated are by Agnese, but it would certainly be a great help in assisting to identify one as his if these mountains were found to be gilded—a detail which the photostat will not disclose.

The Sources of Agnese's Maps

Before proceeding to discuss the development of cartography as exemplified in his maps, we must examine the material available

to him when he began his career as a map-maker. More than half the maps in his earlier atlases are devoted to the area of the normal portolan, that is, the Mediterranean, Black Sea, and the Atlantic coasts of Europe and Africa as far south as Cabo Bojador. Nordenskiöld states that the normal portolan was fixed and the different map-makers simply copied from one another. Whether this was so or not, the fact remains that all these coasts had been known long before Agnese's time. The progress of discovery can only be traced on the maps of the New World and of Far Eastern Asia. I shall confine myself therefore chiefly to his maps of these parts of the world.

He began, possibly after a preliminary effort, with a map of the world which emanated from the Sevillian school of cartography, either the Diego Ribero planisphere of 1529 in the Propaganda Fide, Rome, or one like it. By this year the discoveries of Lucas Vásquez de Ayllon and Estéban Gomez on the northeast coast of America, those of Hernando Cortés and Francisco de Garay in the Gulf of Mexico, those of Francisco Pizarro down to 1528 on the coast of Peru, and those of Andrés Niño and the various lieutenants of Pedrarias Avila on their voyages along both sides of Central America had been incorporated on the standard map in Seville and can be seen on Ribero's map. The Portuguese discoveries on the coast of Brazil and those of the Spaniards on the north coast of South America, of the Argentine, and in the Strait of Magellan had already appeared. Moreover, by 1529 Cortés had explored the west coast of Mexico and Alvarado had occupied Guatemala. No traces of their movements appear, however, on Ribero's or Agnese's first map, probably because they were on land. The farthest point west on Ribero's map on the south coast of Central America is the Sierra de Gil Gonzalez Davila, and the next to the farthest south on the coast of Peru is the Provincia de Sierra Morena in about 09° S. The latter corresponds to Agnese's Provincia de Sierra, which however he placed in almost 13°. If Ribero's map

be placed side by side with one of Agnese's, the striking resemblance between them will be immediately apparent. Both end at almost the same points at the east and west. In spite, however, of this general similarity it does not necessarily follow that Ribero's map was the prototype used by Agnese. The Seville maps have much the same general appearance and numerous features in common, it being generally and probably correctly believed that they were all derived from the *padrón general* or standard map in the *Casa de contratacion* in Seville. The usual opinion held by students of Agnese cartography is that he copied some map made in Seville about 1534, and such may have been the case for his second world-map. For the first, however, he must have used Ribero's or one made about the same time.

The proof that he also made use of the *Isolario* of Benedetto Bordone, printed in 1528, is almost convincing. That he adopted Bordone's projection for another world-map has been frequently alleged and occasionally denied. Pietro Coppo also issued an oval map in 1528, and it has been supposed that Francesco Roselli had used this form previously, but I am of the opinion that Agnese adopted the type from Bordone as there is evidence that he was acquainted with his book. There is also some circumstantial evidence that he made use of the maps of the Grecian Archipelago and of the Adriatic in the atlases of Vesconte de Maiollo, another Genoese. However, there can be no certainty about this. The maps were not peculiarly Maiollo's any more than the chart of the normal portolan as cut up into sections by both of them. Agnese simply adopted a form of the normal portolan which was in very general if not in universal use, and the fact that Maiollo had previously issued it in atlas form hardly warrants us in concluding that Agnese copied him. He simply followed him in point of time. It may be noted, however, that Agnese adopted an entirely different plan from any hitherto used. This was novel and became almost his peculiar

and private property, as none of the other makers of atlases later in the century followed it except copyists of his maps. The usual practice of those cartographers who aimed to cover the entire world was to display this in a series of sections which in many cases could have been put together to form a complete world-map. Agnese on the contrary provided two maps of the world: one a modern one on the plane projection and the other of Ptolemaic type for the Old World on an oval projection. The territory of the normal portolan he divided into from four to six maps. Thus we see that this last part of the world appears on all three maps and the rest only on two. We may therefore take as Agnese's typical form of atlas the world-map on the plane projection divided into three sections, the normal portolan divided into from four to six, and an oval world-map. In the early years the only deviation from this plan consisted in adding one of the old maps of the Grecian Archipelago, or Adriatic, or both, and sometimes a spherical map in outline of the New World, and Western Europe and Africa with the same configuration as shown on the oval map in the same atlas.

The sources of some of his later maps will be discussed later in this paper.

The World-Map on a Plane Projection

With few exceptions all his atlases are characterized by the inclusion of three maps which with considerable overlap make up a map of the world. These have been frequently described, but no one seems ever to have noticed that he also drew maps with these combined. Five of these have so far been located which are, with a few exceptions, substantially alike. For the purpose of study they may be divided into two classes: first, the pre-Californian, a group of four; and, second, the post-Californian of one. The first four are found in Atlases II–V and the later in Atlas XL.

In the first group III and V have standing meridians gradu-

ated to 10°, and located about 10° west of the Ptolemaic meridian which is also found on both the others. On II the meridian is not graduated. IV also has the Equator graduated for longitude, but at intervals of 5°, the same as for latitude. None of the maps has any decorations except windroses, four of which are found in the form of a rectangle on the maps in II and V, while the other two have in addition a fifth in almost exactly the same position between the Moluccas and North America. As far as can be made out the coast lines on all these maps are the same, but quite a little difference will be found on examining the nomenclature, which on America is derived from the planisphere of Diego Ribero in the Propaganda Fide in Rome. All except that in V have a duplicate island, Gilolo, at the west end of the map, also a feature of Ribero's, although in his case the easternmost is only drawn in outline, no doubt to indicate an alternative position. They all appear to be constructed with a slightly shorter degree of longitude than of latitude and with the peculiarity of being graduated to about 350°. It was not until after 1545 that he corrected this to 360°, at the same time moving Gilolo nearly 15° farther west. Taking those which have any graduations on them, we find that the point where the Tropic of Cancer cuts the Mexican coast is approximately 80° west of the Ptolemaic meridian, about the same as shown on early maps of the Sevillian school.

The small size of his maps compared with that of Ribero made it necessary to put some of Ribero's names on one map and some on another, but together they must comprise his complete list. The one in V has the most complete and most accurate list; for instance, the next to the last name on the Peruvian coast is "p. de mal abrigo," which is its proper name, while on the others "abrigo" is omitted or written separately. The last name on the Central American coast is the "sierra de gilōcales" [Gil Gonzalez], on that in IV, "sierra de gil gōcales davila," and on that in III "praia de cereseda," the next to the

last on the others. On that in II there is none at all on the coast west of Panama, and the last one on the Peruvian coast is "sierra morena." This, however, furnishes no reason to suppose that Agnese had therefore copied this from an earlier map of Ribero; such omissions are common in his maps. Another omission on several of them is that of the names of most of the islands, but the islands are shown just the same. The nomenclature on America is mostly in Spanish with an occasional Italianization. There are, however, curious forms, for instance, "baia" seems to be always written "baina." Although this is not exactly a Portuguese word, it seems to indicate an effort to simulate one. Another peculiar example of the use of Portuguese is in the legends attached to the islands in the south Atlantic and Indian oceans found on that in V and later atlases.

The nomenclature on the coasts of India corresponds largely to that found on Portuguese charts and differs somewhat from that of Ribero although Agnese used Ribero's chart as a basis. It follows then that Agnese also had a Portuguese chart of the East, and this seems to have been somewhat like the one recently reproduced by Mr. Boies Penrose in his *Link with Magellan*, only earlier, as Mr. Penrose's chart has a continuous coast line for Siam and Cochin China as well as a long string of islands just east of Timor, all indicative of later discoveries. Agnese omitted the Javas and most of the islands to the east of them almost to the Moluccas. Nothing but coast lines and waterways is shown on these maps except a few rivers like the La Plata and Amazon which just as on the Ribero map extend a short distance into the interior, but the golden mountains in Peru so familiar on the sectional maps appear on the one in III. Scandinavia and the Baltic are omitted.

That Agnese soon secured another world-map, although still of the Sevillian school, is manifest from the extension of names on the Central American coast beyond the Sierra de Gil Gonzalez. The fact that the names seem to be out of order might

indicate a misunderstanding of some printed account, but we know of no document containing any account of discoveries in this quarter except the letters of Pedro de Alvarado and Diego de Godoy which were appended to Cortés' fourth *Relación*, printed in 1525. An inspection of these, however, plainly shows that Agnese did not secure his information from them. If we read the description of this coast given by Gonzalo Fernandez de Oviedo in his *Historia*, IV, 14 and 15, we shall find some of the names, which according to him were taken from a map of Alonso de Chaves made in 1536. I place below in parallel columns Agnese's list and that of Oviedo, beginning where Agnese's first map ended.

AGNESE	OVIEDO
Siera de Gil Gonzalez [davila in one atlas]	Soconusco
Soconusco	Sierras de Gil Gonzalez Davila
Tequantupaque	Punta de Çitula
Cacalota	Golpho de Guaçetan
Quagoton	Punta de Coita
Colūtupeque	Rio Çerrado
Sciata	Los Pegios
Topoque	Tegoantepeque
Rio Serrado	Tuantepeque

Thus we see from Oviedo's description that Soconusco was east of the Sierras de Gil Gonzalez, and the Rio Çerrado was east of Tegoantepeque, but in the first case he was mistaken. Perhaps Agnese's Cacalota is an error for Çitula, but what his others may represent, unless Sciata stands for Chiapa, is a mere matter of guesswork. There was a town of Colotopeque in Oaxaca, possibly on the west coast. It would seem from this comparison that Agnese had copied a map made about 1535 or 1536 which resembled that of Alonso de Chaves, perhaps the one made by Alonso de Santa Cruz, of which Oviedo speaks. As far as Eastern Asia is concerned, nothing more appears on Agnese's early maps than a bit of the Chinese coast, Gilolo, and a few of the surrounding islands. Not even Cebú or

Mactan, where Magellan was killed, is shown named although his route around the world appears in a line of dots on the oval world-map, in the same atlases.

On these maps we see one of Agnese's peculiarities, one common to nearly all makers of manuscript maps, namely, the wholesale omission of perfectly well-known names. None is shown on the north coast of Central America and Mexico between Nombre de Dios and the Rio de Almeria except the C. di Gracias a Dios and the Rio di S. Paulo. In other parts a name, sometimes more, is frequently dropped, an evidence of carelessness in copying or of lack of space. Another of his early peculiarities is the portrayal of Yucatan as an almost square island. Up to even 1530 or later the Spaniards themselves were uncertain whether this was an island or a peninsula, and the reason is obvious. At its southern extremities, which are not very far apart, there is a swampy country through which rivers meander and which was not explored for a long time. If one looks carefully at the Ribero chart it will be seen that Ribero himself was uncertain about the matter; the coast outlines at the bottom of Yucatan are very faintly drawn, and it looks like an island set off at some little distance from mainland although its shape is laid down almost accurately. In 1538 Gerard Mercator issued a map with a very narrow connection, but it was not until 1544 that Sebastian Cabot's map displayed Yucatan in its true position. We shall see that first Agnese adopted Mercator's form and later that of Cabot. Another curious error is the distance from the Red Sea to the Mediterranean, almost equal to the length of the Red Sea itself. While he perpetuates this error, which he copied from Ribero, on his map of the Atlantic, he corrected it on that of the Indian Ocean.

The first group appeared in Agnese's earliest atlases during the period when he was engaged in turning out maps of large size. He soon resorted to the device of dividing this map into three sections. While this may have been determined by a reduction

to one-half or less of their former size, he possibly had other reasons, as we find even in the large atlas in the British Museum (IV) both these and the world-map. Some ten years later when Agnese was again issuing larger maps he made the one in the Hispanic Society's atlas (XL), but he must have had in his possession the original from which it was drawn, or a copy of it for some time, as in its three-section form it had appeared as early as 1542. The essential features of this map are a further extension of the Central American coast beyond the Rio Serado, and a delineation of the Peninsula of California with names which must have been obtained from some map or account of the discoveries of Francisco de Ulloa in 1539–40. No Spanish map from which these were taken is now known, and when the Cabot map appeared in 1544 we find on the peninsula a somewhat different set of names which we may safely assume had been taken from the *padrón general* in Seville. In attempting to explain the discrepancy our first thought would naturally be that Agnese had obtained the names from the account of that expedition written by Francisco Preciado which in all probability had been published in Spain in 1541. This is at once seen to be untenable, however, as several well-known spots on the Pacific Coast have names applied to them on the map which could by no possibility have been deduced from any statement in that narrative. Now that we also have Ulloa's own account available we find that he also failed to mention these places. That another account once existed is manifest from a stray leaf of paper in the archives in Seville, in which it is stated that Ulloa discovered the Islas de Tiburones. Now in neither of the accounts by Ulloa or Preciado is there any mention of *tiburones*, that is, "sharks." The Cazones, which means "dogfish," a kind of shark, are located on the maps showing the results of the expedition, as well as on those of Agnese, as islands in the neighborhood of the Isla de Cedros—perhaps Cedros was one of them. On Agnese's map, however, we also

find on the Sonora side at the head of the gulf a "Punta Tabursa." Tabursa can hardly be anything but a corruption of *tiburón* or *tiburones*. Whether the "Tiburones" referred to in the single-leaf document were the "Cazones" on the outer coast or the "Tabursa" on the gulf coast cannot be determined, but the use of the name itself indicates that some other account of the voyage which contained it was printed or was available to Agnese in manuscript form. Another indication that Agnese used some document or map not now known is the name "Madalena" attached to an island near Cedros on the northwest coast. I have discussed this name, in connection with some others farther north found on a map of Diego Homem of 1568 in *Spanish voyages to the northwest coast of America*, with the conclusion that in all probability they represent names given by Ulloa on his return south in the summer of 1540. The pilot who went with him and must have returned with him was Pedro de Bermes. Nothing more is heard of Bermes in New Spain; perhaps he went to Spain and either wrote some account of the voyage or made the map which was used by Agnese.

After 1545 a more complete delineation of the Indian Archipelago is found on the sectional maps. On all his maps of the Pacific issued as late as 1545 a stereotyped form is found for the coast of China and for what he names the "Insulae Maluche." A forest is occasionally shown there and later the name "Gilolo." Still later Timor is sometimes named with a legend attached to it. On the map of the Indian Ocean some names appear on the Chinese coast which is partly filled out as far south as Malacca. That of the Pacific now becomes extended to the point of the Malay Peninsula at first and then somewhat later to include part or all of Sumatra. Names appear for numerous islands in the Indian Archipelago, and those on the Chinese coast have been increased by the addition of a few more to the north. The change took place sometime in the interval between the years in which XL and XLIV were issued. The other maps

in XL and XLIV are very similar; they both were made before Yucatan appeared definitely as a peninsula and before England and Scotland were joined and a change made in the Continental coast opposite. Unfortunately, we have no atlas of his dated between May 8, 1545, and July 8, 1553, so it is impossible to assign more than an approximate date to any of these. In reality there was nothing new about the information; the discoveries had been made long before, and most if not all of them had appeared on the Ribero map of 1529. Agnese consequently must have been satisfied to keep on copying his earliest maps, and was only aroused to add this information previously possessed by him by the appearance of better maps produced by some other cartographer. The whole question is bound up with the problem which puzzles all investigators as to why he did not transfer to his maps information about discoveries which must have been available to him, living as he did in Venice, at that time the commercial center of the world.

The figuring on the map of the Indian Ocean in XLIV and some others of "Prete Iani" (Prester John) in Africa, and of some other monarchs in Asia, seems to point rather definitely to a study by Agnese of the first volume of the *Navigationi* of Gio. Batt. Ramusio published in Venice in 1550. "Prete Iani" bulks very large in that work, and frequent mention of the other monarchs Agnese introduced can also be found in it. Most of the stories in the work were not exactly new, but I think we are justified in assuming that the book is the source from which Agnese obtained his information. I therefore date this group from 1550.

The Oval World-Map

This map, a prominent feature of practically every known Agnese atlas, calls for considerable comment. It was not up to date when first issued, and the few improvements made in it as time progressed only served to correct some salient errors—

errors which had been already established before the first one was issued. Its only discernible function was to display some of the author's imaginary geographical ideas and perhaps at the same time to compete in a fashion with the published Ptolemies and the *Isolario* of Benedetto Bordone. The other maps in his early atlases simply delineate the coasts of the then known world, but on the oval map Agnese apparently felt compelled to show the interior of the countries. For this purpose he had to rely largely on the Ptolemy maps, certainly for Asia and Africa, and we find that as a matter of fact he rather religiously copied the modern maps of those countries which appeared first in the Stuttgart, 1522, edition of that author and were reissued in the editions of 1525 and 1535. He did not even take the trouble—or perhaps did not have the audacity—to correct some of Ptolemy's blunders, notably the position of Taprobana, which had become known by the time he began, and is shown in its proper position as Sumatra on his other world-map. He did not use, however, the Ptolemy map for the Far East, except in part. The discoveries of the Portuguese in the Indian Archipelago had demonstrated that the long peninsula to the south, east of the Sinus Magnus and which ended with Catigara, did not exist. There was nothing there but a number of islands, which duly appear somewhat promiscuously on the map. The peculiar Ptolemaic shape of the Malay Peninsula, however, persisted until about 1550. The interior of Africa is also plainly Ptolemaic. Agnese put a few Portuguese names on the coast of India, and added some islands in the Indian Ocean, which had not appeared on the Ptolemy maps. When we come to the New World for which he had no Ptolemaic precedent, except a few of the new maps which showed a little of the Caribbean, the north and east coasts of Brazil, and the northeastern part of North America, he was obliged to fall back on his other world-map, and in order to fill out the continent of North America he had recourse to his imagination or to the globe of Gemma Frisius.

The discovery of the Frisius globe in Zerbst by Walter Ruge some years ago was a matter of much geographical importance. From a description of it read by Ruge before the International Congress of Americanists in 1904 it can be definitely determined that this was the principal source from which Gerard Mercator drew for his heart-shaped map of 1538. Now, the shape of North America on both is almost the same as that displayed by Agnese on his earliest-known oval map, the one in the Old Royal Library in the British Museum, the only essential difference being that Agnese omitted the strait at the north. The date of the construction of the globe is unknown, but Harrisse in his *Discovery of North America*, page 581, quotes an extract from a privilege granted by Charles V in Gand, May 24, 1531, to Gemma Frisius and Gaspard de Mirica for printing a globe during a period of ten years. The globe in Zerbst contains, besides an inscription that it was made by Frisius and engraved by Gerard Mercator and Gaspare a Myrica, another that it was made under a privilege from Charles V, apparently for eleven years. The inclusion here of Myrica's name would seem to render it certain that this was the globe for which the permission was issued in 1531, although that was for ten years.

It seems to be now believed that Mercator entered Louvain in 1530. He was then only eighteen years of age, and if he had anything more than a mere nominal connection with the globe, it could hardly have appeared before 1533 or 1534. In view of the fact that it must have been commenced in 1531, if issued under the privilege of that year, it is difficult to see how the publication could have been delayed much after 1534. There is of course another explanation possible. Frisius was a maker of globes, and there is evidence that he had produced one or more by 1530. He may therefore have produced another in 1531 under the privilege granted to him in that year, and the Zerbst globe may be a reissue with improvements and re-engraved under a privilege for eleven years. The legend on the globe re-

garding the conquest in 1530 of "Hispania Maior" as Nuño de Guzman called that country in his letter written from Omitlan on July 8, 1530, and especially some names in Peru, point to 1534 as about the earliest date it could have appeared. The legend above mentioned is also found on Oronce Fine's map of 1531, but Frisius has added a real name on the coast, "Matonchel." F. van Ortroy in his *Bio-bibliographie de Gemma Frisius* dates it 1536. As I think Agnese made use of it as early as 1536, it cannot be later than that.

Agnese turned out several atlases with maps of this type, certainly one as late as October, 1536. He soon changed it, however, by the insertion of a strait at the north similar to that on the Frisius globe. None of the atlases containing this map is dated, although several have the year 1536 written on the equinoctial line on the zodiac. It is hardly likely, however, that they could have been issued in that year in view of the fact that as late as October another of a different type had appeared. There is even, I think, a bit of evidence that Agnese did not copy the strait from Frisius' globe but from the Mercator 1538 map. Frisius had attached to this strait the name "Fretū Arcticum," with a legend about the Portuguese having attempted to sail through it to India. Mercator adopted the name but left off the legend. If Agnese copied the globe it would seem that he would have called his line of dots through the strait the "viazo di portugal" instead of the "viazo di fransa" as he did. He evidently assumed that the strait had some connection with the voyage of Jacques Cartier of which some information must certainly have filtered into Italy by 1538, the year that these atlases were probably made. Agnese also represented the Old World in a way similar to Frisius and Mercator, but as they also drew on Ptolemy this proves nothing. What differences do exist, however, are fairly convincing that Agnese copied the form of this from the old Ptolemy maps and not from that on the Mercator map. Besides, he modified this in the eastern sec-

tion of Asia to accord with his Spanish model. He also failed to reproduce the ideas of Frisius and Mercator regarding the land south of the Strait of Magellan, obtaining his inspiration from some other source.

It might be contended that Agnese took his strait at the north from the *Isolario* of Benedetto Bordone published in 1528, which contains not only an oval map of the world but on the verso of folio vi a small map of the Terra de Lauoratore, at the southern end of which is a strait shown as extending into a sea beyond. This strait, however, is opposite the Azores and consequently in about 38° north instead of in about 55° as on Agnese's maps. That Agnese was acquainted with this work seems obvious from the fact that he must have copied from it Norway and Sweden on the recto of folio vi, and possibly Scotland and England from the map on the verso of folio iii, although this had appeared on Ptolemy maps. The peculiarity of this configuration of Scotland is a long extension of the northern part to the east, which Agnese did not keep for very long as he soon altered it to correspond with the map of England and Scotland shown on the recto of folio iii of Bordone's book. Later, however, he took it up again. There are other indications that he used Bordone's maps, for example, for his Taprobana and possibly for his Cuba and Santo Domingo.

Agnese did not long adhere to this conception of a strait but soon adopted the isthmus type based on the maps of Vesconte de Maiollo of 1527 and Hieronymo de Verrazano of 1529. On only the former is the west coast of America below the isthmus drawn in, but Agnese stuck to his own idea of the general form of the continent above it and merely modified it by the insertion of an isthmus, across which his "viazo di fransa" extends clear to Cataio or else stops short of that country somewhere in the Pacific. Several atlases with maps of this type are known as he continued to exemplify the idea until about 1542. At about the time this last change was made he completely altered the shape

of Norway, which was now made to extend in the form of a narrow peninsula to the North Pole, and called "Engroneland" and later "Nova Terra." At the same time he changed the configuration of the east coast of Sweden. It may be remarked in this connection that, so far as I have seen, England and Scotland never appear as separate islands on any of his oval world-maps. For South America Agnese also painted in an imaginary west-coast line, a practice adopted by most of his contemporaries and successors and perhaps copied also from the Frisius globe.

It seems impossible to assign to any special year any of the preceding maps except that in IV which has Agnese's name written on one of the maps in capital letters in imitation of print, a form of writing that is not observed in any of his other signed atlases. There is no particular reason, however, to doubt that he himself wrote it. The date of this signature, October 13, 1536, if genuine, makes it improbable as previously stated that other atlases which have 1536 on the zodiac and are of later type are correctly dated. Several of these exist with an addition on the "Linea Aequinoctialis" of the "Principium Martii" or the "die 10 Martii." As this line on the zodiac passes through March 10, at that time the day of the vernal equinox, it seems rather rash to contend that these notations refer to the dates on which the atlases were made. It is not at all likely that more than two atlases now known which have some such inscription on the zodiac were made before October, 1536. Those with the strait at the north appeared, I think, in 1538 or early 1539. Up to this time none of these maps had been embellished with the heads of cherubs indicating the various winds, later a feature on all such maps. The change to the Verrazano type must have taken place about 1539 or 1540, and now we begin to find the cherub heads.

The next modification consisted in introducing into maps constructed on the preceding model a few names in Northwest America derived from the account of Marcos de Niza's journey

in search of the "Seven Cities." Niza returned to Compostela sometime in July, 1539, and probably did not reach Mexico City until late in August. His account of his journey was written early in September and could hardly have reached Spain before 1540. Elsewhere I have expressed the opinion that this was printed, and the finding of his names on these early maps is another indication that such was the case. Allowing sufficient time for the account to be printed, to reach Italy and finally Agnese, late 1540 would be about the very earliest date we could assign to maps using data derived from it, and early 1541 is much more consonant with other data. No other change of consequence was made at the time. Several of these maps are extant, and they all have the peculiarity that the "viazo di fransa" ends in the Pacific not far west of the isthmus. XVII occupies an intermediate position between this and the following group. The oval world-map still has the "viazo di fransa" while the map of the Pacific shows the Peninsula of California cor responding to that on the oval world-map, but without any names and with only the legend above the head of the gulf. The atlas must consequently be assigned to the post-Californian group. Niza's names have disappeared, as they have on the 1542 maps, an indication that the atlas was produced just before these.

As we have just seen, Agnese had obtained a new map of the world on which the Peninsula of California was laid down. He now put out a new type of atlas of which the earliest-known dated example so far discovered is in the Morgan Library in New York (XX), although I believe the one in Vienna (XIX) is earlier. The map of the Pacific has Ulloa's names attached to it with a few from other unknown sources while those of Niza have been discarded. The famous "viazo di fransa" on the oval map also disappears for good, and some changes in South America have also been made. It is difficult to understand why Agnese abandoned the French voyage at this particular time.

There is nothing connected with that of Ulloa, the results of which are depicted in this and succeeding atlases, to shed any light on the subject. He could not have been undeceived by reading a full account of Cartier's voyage, as this, so far as we know, had not as yet been published. The Verrazano isthmus remained for some time, but the line was never restored. While Agnese subsequently made changes in this map, he retained the Verrazano isthmus up to perhaps 1552, as many undated atlases showing it exist.

On February 5, 1544, Agnese put out an atlas of ten maps now in Dresden which he signed and dated. The maps in general are similar to those dated 1542 and 1543, but he reverted to the old Ptolemaic type of England and Scotland and changed Yucatan to a peninsula with a very narrow connection, like that in the Mercator map of 1538. He did not persist very long in this, however, if we may judge from an atlas in Madrid dated July 1, 1544. Here Yucatan is again presented on the maps of the Atlantic and Pacific as an island just as on his earlier maps. It is useless to attempt to account for these vagaries. From the number of undated atlases which show Yucatan as an island and are generally of this type, excepting for the form of the British Islands, it may be concluded that he adhered to it for some time.

Five atlases of Type 2, although unlike in several respects, have at least one thing in common on this map, namely, a strait across North America about where the one had been in those of Type 1, "C." The shape of North America also very strongly resembles that of those earlier maps. I do not take it that this was a reversion or simply the result of careless copying of one of his earlier maps, but that it was connected with a new set of stories about a strait in the northern part of America and that Agnese desired to be up to date. He possibly derived it from Münster's maps, recently published, or even possibly from his own maps of the Pacific which always show an opening in this

vicinity. The western outline of the continent is very faint, indicating a somewhat hazy idea as to its exact shape.

The next and last important changes in this map occurred in the abandonment of the line showing the voyage to Peru and the removal of the large island of Taprobana to its proper place as Sumatra, a position which it always occupies on his other world-map. We cannot be certain when these took place. The first dated atlas to contain such a map is LIV of July 8, 1553, but it is not unlikely that some of the undated atlases in which the oval map conforms to this may have been issued before 1553—a question I shall discuss later in this article.

The lines on the maps indicative of the route of Magellan around the world, of that to Peru from Seville, and of the so-called "viazo di fransa" form one of their most striking features. It has even been asserted that the appearance of at least one of these is a certain indication of Agnese authorship. This can hardly be true as we find Magellan's route laid down on some anonymous globe gores in the New York Public Library and on the Gilt Globe in the Bibliothèque Nationale, Paris. A number of ships are depicted on Ribero's map of 1529 in a line from Spain to the Strait of Magellan and thence to the Moluccas, each entitled "voy a maluco." Those returning from the islands to Spain are labeled "vengo de maluco." In place of these ships Agnese drew a line over the same route, usually in silver. The "viazo di Peru," which could hardly have appeared even on a Spanish map before 1534, was probably added by Agnese simply to accompany that of Magellan and in imitation of it. This is usually gilded. His earliest map to show these routes appeared about 1536. The history of the "viazo di fransa" has already been given.

The Normal Portolan

The rest of the maps in an ordinary atlas comprise the "normal portolan" as Nordenskiöld has called it. He made an exhaustive

study of portolan charts and atlases of the waterways of Europe over which vessels were accustomed to sail, and states positively that from the fourteenth century to the end of the sixteenth the periplus remained the same with the exception of that of Northwest Europe. Many exist which cover the entire territory on a single map. When the custom arose of dividing this into sections is not known, but quite a few atlases are extant which reach back to a time long before Agnese began. He usually divided it into either five or six sections: Northwest Europe, Spain and Northwest Africa, the Mediterranean in two or three sections, and the Black Sea. In several atlases made before his time there are special maps of the Adriatic and the Grecian Archipelago, notably in the Vesconte de Maiollo atlas in the British Museum, Egerton 2803, and these he frequently reproduced.

The only one of these maps to invite attention by reason of changes made in it is that of Northwest Europe. In his earliest atlases we find a map on which England and Scotland are divided by a narrow strait, a common feature on early portolan charts. Holland, Brabant, and Utrecht appear as a single island. This part of the map even to its names is almost identical with the fifteenth-century chart now in the library at Uppsala in Sweden, which was reproduced by Nordenskiöld in his *Periplus*, Chart XIX. It can hardly be doubted that Agnese copied this or a subsequent one of similar nature. The only substantial difference is his insertion of a part of the Baltic Sea which does not appear on the Uppsala chart. The first modification was to break the west coast of the single island of Holland Brabant and Utrecht in two places. Then he divided it into three separate islands—an idea, however, of which he was not the originator; the same division can be seen in the Maiollo atlas, just mentioned, which must have been produced prior to his earliest work. Later he reunited them.

In the group of later atlases we find England and Scotland

united. The earliest known of these to bear a date is LIV of July 8, 1553, and all those in atlases dated later are alike in this respect. There are, however, several undated which have a map with Scotland and England united, but with two routes around the world on the oval map instead of one as on those in the dated atlases. We would be justified, therefore, in assuming that these had been made before LIV, thus putting back the appearance of a united England and Scotland to before July, 1553, perhaps as early as 1552. The mere uniting of Scotland and England would not signify so much, as this is the way in which they always appear on Agnese's oval maps, but except in two cases the map of Scotland is new and Mr. M. C. Andrews asserts that this has not been found before its appearance in Agnese's atlases.

Special Maps

In one of his atlases dated May 8, 1545, Agnese inserted an enlarged map of Italy and the Adriatic but still a strictly portolan map. Land maps of Scandinavia and Palestine followed shortly afterward, and soon others of Spain, Russia and Tartary, the upper basin of the Po, Cyprus, Crete, and Sicily appeared. All except that of Scandinavia are in portolan style, proof of how conventional the system of putting direction lines on these maps had become. None of the atlases in which these land maps made their first appearance is dated; all we can say is that they must have been issued sometime between 1545 and 1553, even before 1552. It has not been possible to trace the sources of any of them except those of Italy and the Dalmatian coast, of Scandinavia, of Palestine, and of Russia and Tartary, but no doubt if a comparison could be made between the others and certain maps of the same territory known to have been engraved before 1548, some satisfactory results might be obtained. Such maps, however, are of the greatest rarity and are scattered through different libraries in Europe. The task of comparing them with Agnese's maps has proved to be an impossible task in a work of

this character limited to an examination and comparison of Agnese's own work. In 1553 Agnese began to issue other land maps and special maps of other islands in the Mediterranean. His atlases now take on a likeness to printed ones. During this period more maps appear with graduations for latitude, and sometimes for longitude, and the strictly portolan aspect of them has to a certain extent disappeared. In 1559 one was issued in which the maps are embellished with titles, but whether these were put on by Agnese or added later is uncertain.

From the very earliest Agnese inserted at the end of many of his atlases a hemisphere, taken from the oval map in the same atlas. They are simply outline maps, always in the early period, of that part of the world comprehended in 90° of longitude measured each way from the prime meridian which passes through the Canary Islands. It rarely has any names on it. In the later epoch an Eastern Hemisphere made its appearance, more frequently with names, not taken from the oval map but from some old Ptolemy map and comprising the Ptolemaic world. Some of these are very crude and others even unfinished.

The following list is arranged in the order in which Agnese produced his maps, as nearly as can be ascertained from a study of his atlases, but as great uncertainty exists in placing some of these in their proper sequence, the list can only be considered as approximately accurate. No attention has been paid to numerous differences in maps of any given territory; where they are important, they are mentioned in the description of the atlases. The information regarding a number of them embodied in the preceding pages is omitted, and the description appended to each map is as brief as possible.

Before 1536

Northwest Europe, a part of the normal portolan comprising the British Islands, with England and Scotland divided, and with the Atlantic coast line from near Oporto on the coast of Portugal to about Denmark, or occasionally to the south end of the Scandinavian Peninsula, together with a part of the western Baltic. It was taken from a conventional portolan map of the fifteenth century. The only important changes took place in the delineation of Holland and in the addition of a few names of provinces beginning with XVII. I–XXXVII.

West Mediterranean, a part of the normal portolan comprising Spain and Northwest Africa from the Cape Verde Islands to about Bordeaux in France and east to beyond Corsica and Sardinia. I–V, XI–XII.

East Mediterranean, a part of the normal portolan from and including Corsica and Sardinia to the coast of Syria. I–V, XI–XII.

Black Sea, an old portolan map in which practically no change was made except by the addition in the later period of eight windheads with names in Italian and one or more legends. One by Vesconte de Maiollo as early as 1320 was reproduced by Nordenskiöld in his *Periplus*, p. 33. I–LXVI, LXVIII.

Adriatic, an old portolan map comprising both coasts of that sea. One by Pizigano of 1373 was reproduced by Nordenskiöld in his *Periplus*, p. 29; another, Pl. XVII. I, III–V, LXI, LXII.

Grecian Archipelago, an old portolan map. One by Pizigano of 1373 was also reproduced by Nordenskiöld in his *Periplus*, p. 31; another, Pl. XVII. I–V, XXIII–XXV, XXVII, XXX–XXXII, XXXV, XXXVII, XL, XLI, XLIV, XLV, XLVII–LII, LIV–LVII, LIX, LX, LXII, LXV, LXVI, LXVIII.

Oval world-map with North America of the elongated type. I–VII.

1536

World-map on a plane projection. II–V, XL, XLI.

Pacific Ocean (western section of the world-map), without the

Peninsula of California. This map extends from the Moluccas (included), or as in IV, from the Malay Peninsula, to about the west end of the island of Santo Domingo. In later issues it extends almost to the mouth of the Amazon but shows little beyond the meridian of Bermuda. It is usually graduated from about 60° S. to 60° N. and from 50° W. longitude to 90°, 10°–90°, 10°–20°. IV, VI–XVI.

Atlantic Ocean (middle section of the world-map), comprising that portion from just west of the city of Mexico usually entitled "Timistitan" to about the Cape of Good Hope. In later issues it extends to the east end of Africa. It is usually graduated from 50° S. to 50° N. and to about 90° W. longitude and 85° E. longitude. IV, VI–LX, LXIII–LXVIII.

Indian Ocean (eastern section of the world-map), comprising that portion (with an overlap) from about the Gulf of Guinea on the west to the Moluccas on the east. The latter, however, are rarely shown on the map. A comparatively early modification consisted in the inclusion in mere outline of the Black Sea and part of the Grecian Archipelago. Usually graduated from 60° S. to 60° N. and from 30° E. to 90°, and 10°–70°. Beginning with XLV the graduation east was continued to 90°. IV, VI–LX, LXIII–LXVIII.

1538 (?)

Oval world-map with a strait at the north. V–VII.

Northwest and West Europe with part of the west Mediterranean, a portolan map, a combination of the usual maps of Northwest Europe and Spain and Northwest Africa, but only reaching just below the Strait of Gibraltar. VI, VII.

West Mediterranean, part of the normal portolan of the Mediterranean, cut off just below the Strait of Gibraltar and only exhibiting a little of the north coast of Spain and Southwest France. It usually extends to just beyond Sardinia and Corsica. VI–X, XIII–XXXIX, XLII, XLIII, XLVI, L–LIII, LVII, LIX–LXI, LXIII–LXVI, LXVIII.

Central Mediterranean, part of the normal portolan from Corsica and Sardinia on the west to the west end of Morea on the east. It is always oriented with the north on the left-hand side of the map. VI–X, XIII–XXXIX, XLII, XLIII, XLVI, L–LIII, LVII, LIX–LXI, LXIII–LXVI, LXVIII.

East Mediterranean, part of the normal portolan from Calabria

on the west to and including a part of Syria. It usually extends from the south point of the Black Sea on the north to the north end of the Red Sea. VI–X, XIII–XXXIX, XLII, XLIII, XLV, L–LIII, LVII, LIX–LXI, LXIII–LXVI, LXVIII.

1539 (?)

Oval map of the world, Verrazano type. VIII–XVI.

Spain and Northwest Africa, part of the normal portolan covering also the west Mediterranean to just beyond the Balearic Islands. On the south it always includes the Cape Verde Islands and usually but little more. Beginning with XVII a few names of provinces are shown on it. VIII–LXVI and LXVIII.

1542

Oval world-map, Verrazano type with the Peninsula of California. XVII–XLVIII.

Pacific Ocean (western section of the world-map) with the Peninsula of California. With LVI a new graduation for longitude began which ran up to 180° W. XVII, XIX–LVI, LIX–LX, LXIII–LXVIII.

Atlantic hemisphere. This map, which is seldom graduated and rarely contains any names, covers approximately the same part of the globe as is shown on the map of the Atlantic Ocean, that is to say, for 90° E. and W. of the prime meridian. It is merely an outline taken from the oval map of the world, except for the occasional inclusion of a large antarctic continent. XIX, XXI–XXVII, XXXIII, XXXIV, XXXV, LXIII.

1545+

Northwest and Central Europe, a land map in portolan style, an extension of Agnese's original map of Northwest Europe to cover practically the whole of Europe, except Southern Spain and Southern Italy. It usually ends on the east at about the middle of the Black Sea. Numerous towns and rivers are shown, and the map is almost always embellished with the figures of various rulers, forming as a rule the most decorative map in the atlas. XXXVIII–LXIII, LXIV (?), LXV–LXVIII.

Italy and the Adriatic, an enlargement of part of the map of the

central Mediterranean. The one in XXXVII is cut off just below Sicily, and that in XLIX is cut off in the middle of Sicily.

Italy and the Dalmatian coast, a land map in portolan style, different entirely from the old map of the Adriatic and comprising, besides the peninsula and Dalmatia, from the Rhine to Salonika, with Sicily, Corsica, and Sardinia. It appears to have been copied from the map of Italy and the Adriatic made by Joannes Andrea di Vavassore which was added to II. XL, XLI, XLIV, XLV, XLVII, XLVIII, LV, LVI.

Scandinavia. This map, which bears no resemblance to other maps of Agnese, was copied by him from the printed map of Scandinavia issued by Olaus Magnus in Venice in 1539. This was a very large map and of course had to be very much reduced. Nevertheless Agnese managed to copy from it a number of the legends, the figures around the standard at the top, sea monsters and occasionally ships, and the numerous figures seated on the thrones. Except in one case it is graduated for latitude on the left-hand side of the map and always has one windhead at the top. The Magnus map was reissued in Rome in 1554 by Joannes Magnus, and, re-engraved, was again issued by Lafreri in 1572. A reproduction of the 1572 issue can be found in Nordenskiöld, *Facsimile atlas*, Fig. 32. XL, XLI, XLIV, XLV, XLVII–LIII, LV–LX, LXVIII.

Palestine, a purely land map but in portolan style, copied by Agnese with slight changes from the *Tabula universalis Palestinae* of J. Ziegler, first issued in 1532 in *Quae intus continentur Syria, etc.*, and again in 1536, now entitled *Terrae sanctae*. It always contains four windheads. XL, XLI, XLIV, XLV, XLVII–XLIX, LII, LV–LX, LXVIII.

West Mediterranean, part of the normal portolan containing a different division of the Mediterranean from that on earlier maps. It extends from the Strait of Gibraltar to beyond the Italian Peninsula, usually to the west coast of Morea. XL–XLI, XLIV, XLV, XLVII–XLIX, LIV–LVI, LVIII, LXII.

East Mediterranean, part of the normal portolan, the complement of the preceding, but with an overlap which takes in part or all Sicily. This map usually contains the legend regarding Tamerlane and the later one about the Ottoman sultans. Towns are shown in Egypt and Syria, and Mount Sinai with Santa Catarina on top of it is usually a prominent feature beginning with XLIV. XL–XLI, XLIV, XLV, XLVII–XLIX, LIV–LVI, LVIII, LXII.

1548 (?)

Russia and Tartary, or, as sometimes referred to on the map itself, "Moscovia," a land map in portolan style which covers that part of Europe east of the Baltic Sea and usually as far south as Candia. The eastern limits vary somewhat but it always includes the Caspian, part of Persia, and even Sogdiana. It contains numerous vignettes of towns, tents of Tartars, and several legends. On the one in LVI there is an inscription difficult to decipher in the photostat. I therefore utilize the one given by Leo Bagrow who no doubt took it from the original map—"Moscoviae Tabula relatione dimetrii legati descrypta sicuti ipse a pluribus accepit, cum totam provinciam minime peragrasse fateatur anno M.D. XXV. octobris." In 1525 Paulus Jovius obtained from an ambassador from Russia to Pope Clement VII much information which he embodied in a book printed in that year. In this he stated he would add a map, and while no copy is known with it, this map is no doubt a copy of it, judging from the inscription. XLIV, XLV, XLVII–XLIX, LV–LX, LXVIII.

Spain, a land map in portolan style. It covers much the same territory as his usual portolan map of Spain and Northwest Africa, except that it is cut off just below the Strait of Gibraltar. The north coast of Africa is shown as far east as Buzia. The configuration of Spain is quite different from that of his usual portolan chart and was probably copied from some map of Spain which had appeared shortly before. In 1544 Gastaldi had published a map of Spain which may have been the source on which Agnese drew. This map certainly has some resemblance to the Gastaldi map of Spain in the 1548 Ptolemy although on a far larger scale. XLIV, XLV, XLIX.

Spain, the same as the preceding but without the portolan direction lines. XLVII, LV–LVI. In LVI it is graduated for latitude.

Eastern Hemisphere, a partial reproduction of an ancient Ptolemy map of the then-known world, with or without names. It almost always shows the sources of the Nile as the lowest part of the map. XLIV, XLV, L–LII, LVI–LIX, LX (?).

Upper Basin of the Po, a purely land map in portolan style. XLV, XLVII, LV, LVI.

1552 (?)

Oval world-map with a strait in North America at about 52° through the continent which is no longer of the type of the narrow

Verrazano isthmus. XLIX–LIII (only the Magellan route on LII and LIII).

Cyprus, a land map in portolan style. XLIX, LII, LV–LX, LXV, LXVIII.

Crete or Candia, a land map in portolan style. XLIX, LV–LX, LXVIII.

Sicily, a land map in portolan style. XLIX, LV–LX, LXVIII.

Northwest and Central Europe with a new delineation of Scotland. L–LX, LXIV (?), LXV–LXVIII.

1553

Oval world-map without a strait in North America and a partial reversion to Agnese's original shape of the continent, and with only Magellan's route around the world. LIV–LXII, LXIV, without any route, LXV.

Africa, a purely land map in the same style as Agnese's map of Spain. It covers almost the same territory as the map of Africa by Paolo Forlani of 1562, usually found in Lafreri atlases, but Forlani's map is better. It is graduated for latitude on both sides, and beginning with the one in LVI it is graduated for longitude at top and bottom and on the Equator. The projection is either a globular projection or what was then known as trapezoidal. LV–LX, LXV–LXVIII.

Morea, a land map in portolan style. LV–LVI, LX.

British Islands, a purely land map graduated for latitude from about 49° to 62°. The map is a copy of the *Britanniae insulae*, published in Rome in 1546, and usually ascribed to George Lily. LV–LVI.

Tuscany, a land map pure and simple, extending from the Tiber to La Spezia. LV, LVI.

North Egypt and Syria, a purely land map in a rather distinctive style graduated from about 27°45′ to 33°. It shows Egypt to just a little below a division line between that country and Ethiopia, and there are other boundary lines on the map. Mount Sinai with Moses on top of it receiving the laws from God is a usual feature. LV–LX, LXVIII.

Euboea or Negropont, a land map in portolan style with Andro and Sciro and the Western part of Greece. LV–LIX, LXVIII.

Lesbos or Mitylene, a land map in portolan style, with part of the coast of Asia Minor. LV–LX, LXVIII.

Scio or Sio [Chios] and part of Asia Minor. A land map in portolan style. LV–LX, LXVIII.

Rhodes, and part of the coast of Asia Minor. LV–LX, LXVIII.

Malta, a land map in portolan style, with Gozo and Comin. LV, LVI, LVIII–LX.

1554

France, a land map graduated for latitude on the left-hand side from 42° to 53° and with four windheads. I have not been able to ascertain the source from which Agnese obtained it. LVI.

1559

Corsica, a land map in portolan style. LVIII–LX.

After 1556

North America. LXV–LXVIII.

Northeast America. LXV–LXVIII.

The Atlantic and part of South and North America. LXV–LXVIII. South America. LXV–LXVIII.

CHARACTERISTIC FRAME OF THE LATE PERIOD

(From Atlas LV)

THE ATLASES

ALL the known cartographical work of Agnese is in atlas form, except a chart of the territory of the normal portolan dated February 4, 1562, preserved in the library of the University of Catania, Italy, and another in the Biblioteca Crespi, Milan. The atlases vary considerably in the number of maps, but the arrangement of the contents of a standard atlas follows a regular plan. At the beginning there is a table of declinations and an armillary sphere on opposite pages, and a double-page zodiac. Then follow the maps, drawn on both sides of a sheet of vellum and folded in the center. Before the declination tables a shield for a coat-of-arms is frequently found, and at the end (occasionally at the beginning) Agnese added in the later period two pages of cosmographical data, and still later, when additions were made to these, three pages. The shields in the early period are very simple and all alike. In the later period they are somewhat more ornate and vary slightly. Before the latter made their appearance a few atlases were issued with shields of a different type unlike either, but somewhat resembling the later ones.

The table of declinations comprises the ninety days between an equinox and a solstice arranged in three columns. Several investigators have endeavored to ascertain the dates of the atlases from this table, but naturally without any results. So far as my observation goes it is always the same. The armillary rings almost always contain a small sphere painted in the center, always of the Atlantic hemisphere in the earlier periods. The zodiac is frequently nothing but the outer ring with the signs painted in, and usually with a small sphere in the center like that in the armillary rings. Sometimes the space between the outer ring and the sphere is filled by concentric circles, and

occasionally there are some decorations in this space. Frequently a calendar in intervals of five days extends around it just inside of the ring of the zodiac and another outside. In the center there is a hole through which a string passed. So many of the atlases which seem to be in their original bindings have a small compass that I think it probable that most of them were so issued. A round hole was made in the board of the back cover and covered by a piece of glass under which this was inserted. In two cases this hole is in the front cover. Around the hole there is usually a windrose with thirty-two winds, corresponding to the thirty-two points of the compass, but sometimes it has only sixteen. When an atlas has been rebound and the compass has disappeared, this windrose was sometimes removed and pasted on one of the new covers.

The technique in the matter of coloring is practically the same in all, and this is so pronounced that in his smaller atlases of any given class maps of the same territory look alike at first sight. The larger maps have a different appearance although the scheme of coloring is the same. The coast lines are painted blue, and most of the names are written in black but many are in red. England usually has a green coast line. The islands are frequently painted green or gold. On the strictly portolan maps the land is never tinted, but on the land maps, even when in portolan style, the background is usually a green or greenish-yellow. Towns are always in red, and mountains, when shown, usually of some grayish color. The oval world-map is of a greenish-yellow color but sometimes of a pronounced green with the coast lines green and the rivers and lakes blue. The mountains are usually brownish. Any woods shown are nearly always green, sometimes half-gilded, and the Red Sea and the Gulf of California are always colored red. Although the zodiacs have the same general appearance, they are in reality not alike; even the figures for the signs differ. When the space between the small sphere in the center and the outer ring is filled, it is

painted blue and so are the decorations around the cherubs' heads. In fact, the prevailing color of the atlases is blue, and with the many place-names on the maps written in red (also the color of the direction lines) they appear to be blue and red. The armillary sphere is painted yellow, and so is the shield for the arms, while the drapery around those of the later type is painted blue on all the examples that I have seen.

The general lack of decoration has already been noted. In the early atlases nothing is seen but painted windroses and an occasional vignette of a town in red. Later a few ships were added on some of Maps 1–3. The map of Northwest and Central Europe usually has sovereigns of the different countries seated on their thrones, and that of Scandinavia always has them. The land maps usually show cities as red vignettes. A bunch of trees is frequently found in the Moluccas on the map of the Pacific Ocean in early atlases and another in Brazil. Gilded mountains in Peru are a common feature. Sometimes land features from the oval world-map are found transferred to other maps, especially to that of Africa where the course of the Nile as depicted on the Ptolemy maps seems to have had a peculiar fascination for Agnese. Legends, so common on the manuscript maps of his contemporaries, are noticeably lacking. The one about the Sultan Selim crossing the desert between the Red Sea and the Mediterranean to conquer Egypt is the most common. About 1550 others of similar character made their appearance on the maps of the Black Sea, of Egypt, and of Moscovia.

It has occurred to me that the language used for the names of the winds on the map of the Indian Ocean may be a clue to the nationality of the individuals for whom they were made. Not all of these maps have windheads, and consequently they do not constitute an essential ingredient of his work. As Agnese was an Italian and working in Italy, he would naturally have employed the Italian language in use on the Mediterranean for

these windheads, and in a number of his atlases this is found. Martin Cortés in his *Breve compendio de la sphera*, published in Seville in 1551, tells us that the names for the winds in use on the ocean were derived from the German or Flemish language while those in use on the Mediterranean had their origin in the Tuscan dialect. The latter he names as follows: *tramontana* for north, *gregal* for northeast, *levant* for east, *siroch* for southeast, *mijorno* for south, *leveig* for southwest, *ponent* for west, and *mestre* for northwest. This nomenclature is somewhat archaic; it even looks more like Catalan than anything else. Agnese used the following modification for the corresponding winds: *tramontana*, *grego*, *levante*, *sirocho*, *ostro*, *garbin*, *ponente*, *maistro* or *maestro*. The names given by Cortés as in use on the ocean are as follows: *norte*, *nordeste*, *leste*, *sueste*, *sur*, *sudueste*, *oeste*, *norueste*. A number of Agnese's atlases will be found in which the winds are thus named which I have denominated as Spanish, but there seem to be more with a nomenclature somewhat different from this: *nort*, *nordost*, *oeste*, *sudost*, *sud*, *sudwest*, *west*, *norwest*. These names are almost the same as those which Blaeu in his *Zee-Atlas* of 1657 calls "High Dutch," a designation which I have perforce adopted. In one or two atlases the names are in French, but I have found none with them in Low Dutch. The inference which one would therefore naturally draw if my assumption is correct is that the majority of atlases were purchased by Germans, Spaniards, or Italians—just what we would expect under the circumstances. Fourteen are still to be found in Germany and Austria, and several which are now in the United States or England came from Germany in recent years. Eighteen are left in Italy, while only one remains in Spain so far as we know.

When I first became interested in these atlases I discovered that in the legend above the head of the Gulf of California on the map of the Pacific Ocean "Vermeio" was in a number of cases changed to "Vermeglio." For a long time I conceived that

the change might have some significance, and I therefore kept a careful record of the form in which it appeared, which will be found embodied in the description of the map in the different atlases. Recently I found that in XXVI, in which the legend appears twice, both forms are used. As this is undoubtedly Agnese's work, being signed and dated as early as 1543, my labor was all in vain. Obviously Agnese used them indiscriminately.

Since attention was first directed to these atlases many have been described by different writers, who unfortunately seldom had access to more than one or two and who frequently ignored the salient geographic characteristics of the maps and labored on the technical points. Only two complete atlases have been reproduced: the so-called "Spitzer" or "Charles V" atlas now in the John Carter Brown Library and the one in the Marciana in Venice dated October 20, 1554. The fullest and generally the best account of any single atlas is that written by L. Malavialle and published in the *Bulletin of the Société Languedocienne de Géographie* (Montpellier, 1907), in which he described the one belonging to the university of that place. General contributions to the literature of the subject have been made by Dr. J. G. Kohl, Dr. Sophus Ruge, G. Uzielli and P. Amat di S. Filippo, by Konrad Kretschmer, N. A. E. Nordenskiöld, Henry Harrisse, and Walter Ruge. Justin Winsor in 1897 summarized the knowledge which had been accumulated up to that time. Harrisse and Kretschmer both published lists: the former in 1892 in his *Discovery of North America;* the latter in 1896 in his *Atlanten des Battista Agnese*. Kretschmer enumerated fifty-four, of which he claimed to have discovered the two in Berlin, one in the Vatican dated June 28, 1542, the one in Bologna, two in the Museo Civico in Venice, and the two in Naples, none of which, however, he described. He begins his list with two apocryphal ones of 1527 and 1529 in the British Museum. Both these dates were apparently derived from some mistake in reading

the work of Kohl. Harrisse rejected both of these and enumerated thirty-nine. Omitting Agnese's two single maps, the apocryphal ones of 1527 and 1529, and those Kretschmer credits to Kings' College Library, Cambridge, and the Marciana (dated 1564), which I am informed were never there or at least are not at present, his list comprises forty-eight. Of these I have rejected as spurious or doubtful the Riccardiana 3139, the Naples D VIII, No. 6, that in Bologna, and the twenty-eight-map atlas in Turin, thus reducing his list to forty-four genuine works, which however still includes the one which once belonged to Celotti, now apparently lost, and those of Donà and Giustiniani, which are now in the Museo Civico Correr, Venice. My list comprises sixty-two without counting that of Celotti or the one stated by Walter Ruge to be in Wolfegg Castle. It is not at all unlikely that others will crop up in the next few years now that they have attained their present high prices.

Doubtful

In 1892 Konrad Kretschmer reproduced in the atlas to his *Die Entdeckung Amerikas* four maps from an atlas belonging to the University of Bologna which he asserted to be one of Agnese's works. Sophus Ruge in his *Kartographie von Amerika*, page 76, and Carlo Errera in the *Riv. geogr. ital.*, II, 395, contested this statement. Kretschmer answered his critics in *Die Atlanten des Battista Agnese*, published in Berlin in 1896. His reasons for assigning the four special maps to Agnese are not very convincing although he states that in correspondence with Professor Ruge he had convinced him. I have carefully examined Kretschmer's reproductions, four photographs of other maps in the Bologna atlas, and two similar atlases in the Ayer Collection, Newberry Library, Chicago. Leaving for the moment the four special maps of America about which the controversy was raised, it may be stated that the atlases are of Type 3 and have some connection with each other. The first fifteen maps of a

twenty-eight-map atlas in Turin are evidently the same as those in the Ayer fifteen-map atlas, while eleven others are undoubtedly essentially the same as corresponding maps in Agnese's atlases of 1554 and 1555. The general resemblance of all the maps inspected to others undoubtedly made by Agnese is obvious, but in view of differences between them and his genuine work, which can hardly be explained, even supposing that they were copied under his supervision, I am led to believe that they were all copied by someone not connected with him. The corruption of the place-names is too marked to permit us to assign them to Agnese. The only one of the atlases to contain an oval map like Agnese's is that in Bologna, and this has the peculiarity of lacking even Magellan's route around the world. This route has usually been considered as a certain indication of Agnese's authorship, but I do not advance its absence as proof that the map was not made by Agnese as this might be the sole exception to the rule.

A radical departure from Agnese's technique and cartography in the four special maps of America common to all the atlases above mentioned is at once apparent. It may be admitted, however, that as far as the technique is concerned it is somewhat similar to that employed in maps of Spain, Africa, the Morea, North Egypt, and Syria and the later maps of the Mediterranean islands in the 1554 and 1555 atlases of Agnese which are signed by him. These maps are conspicuously different from those he produced prior to 1553 with the possible exception of the map of Spain. They certainly do not look like Agnese's work. This has been remarked several times by Italian writers who had occasion to examine his later atlases, but no adequate answer has been suggested. They also present a problem in cartography, as they are totally different from any of his ordinary maps, being no longer based on any Sevillian model—at least none of which we have any knowledge. The most significant novelty is the appearance on the map showing

the northwest coast of North America of names given by Juan Rodriguez Cabrillo in 1542–43. These were not derived from any account of the voyage at present extant, but were taken from the *Historia de las Indias* of Francisco Lopez de Gómara, first published in Zaragoza in 1552. This work was translated and published in Italian in Rome in 1556, and it is practically certain that the nomenclature was obtained from this version. We may therefore be quite confident that none of the atlases appeared before that year. Kretschmer placed the Bologna atlas after 1559 but for wholly untenable reasons. In March, 1928, in my *Spanish voyages*, then being published in the *Quarterly* of the California Historical Society, I reproduced this map from a copy in LXVI, together with the northwest-coast section of the Abraham Ortelius map of 1564, which contains the same nomenclature. At that time I believed that the Ayer map antedated that of Ortelius, and I have since found no evidence to cause me to change that opinion.

But for the obvious corruption of numerous place-names on the other maps in these atlases we might be justified in assuming that Agnese employed someone to make these special maps to celebrate the appearance of a second volume of Ramusio's *Navigationi* in 1556, by transcribing to them some of the Ramusio legends and nomenclature, just as he had that of the first in 1550 by featuring on the map of the Indian Ocean some of the noted characters depicted in that work. The fact that so little of his unquestioned work appeared between 1555 and 1564 lends some color to this supposition. There is, however, another possibility regarding this group which may be suggested. The atlases may have been produced much later by some successor or previous employee of Agnese. The two added maps in the one in Turin were obviously drawn at the end of the century; perhaps the rest of the maps were copied at the same time from his atlas in the Marciana of 1554. The small one in the Ayer Collection is incomplete, and the large one also

shows signs of incompleteness or at least of carelessness in execution. In view of the facts above set forth the best that can be done is to class them as doubtful.

The Gisolfo Group

In the Biblioteca Riccardiana in Florence there is an atlas containing thirteen maps to which attention was called in 1870 by Heinrich Wuttke. On one of the leaves of vellum at the back is a sonnet in praise of the artist who drew the maps, who is addressed as Marco Francesco Gisolfo. Wuttke states that Gisolfo was a well-known maker of globes who lived in the middle of the sixteenth century. In the same library there is another atlas of similar design consisting of twelve maps, and since that time five more have been unearthed. It may therefore be permissible to assume that most of them were made by the same man, and hence I have designated them "the Gisolfo group." One of these, which is in Paris, was known to Harrisse, who characterized it as a counterfeit Agnese. All are designed on Agnese's system consisting of his usual Maps 1–3, the normal portolan divided like his usual Maps 4–9, and an oval world-map. The technique is entirely different from that of Agnese, most noticeably in the matter of coloring, and they are all distinguished by narrow borders of arabesque design, strikingly similar and in some cases even identical. The basis for six of the atlases was Agnese's Type 2, "D," but no one could mistake them for his work. The Spanish nomenclature has been almost, if not entirely, Italianized; no names appear on the Peninsula of California; and the routes characteristic of his oval map are missing except on the one in Mexico. Besides all this one or two world-maps have been added with a connection between Asia and America except on the one in Mexico. The connection is of Gastaldi's type as portrayed by him in his *Universale* of 1546. The world is depicted sometimes in two hemispheres and sometimes in smaller sections, all very highly decorated. The atlas

in the Huntington Library is somewhat later than the others, being copied from some atlas of Type 3.

As previously pointed out, there was nothing new in Agnese's system of the division of the world beyond his use of some Sevillian map on a plane projection. There must have been a number of such maps in Italy, and any cartographer was free, of course, to copy one of them if he could secure the necessary permission. It does not follow, therefore, that Gisolfo copied Agnese's world-map, but the fact that he omitted Ulloa's names on the Peninsula of California while he left them on the Sonora side of the gulf naturally arouses a suspicion that he did, omitting just enough to free him from the charge of plagiarism. Perhaps, therefore, Harrisse's characterization of them as counterfeits was justified.

Classification

The choice of a method of classification to be adopted in arranging these atlases has presented numerous difficulties. A chronological one would of course be the best, but so many of them are undated that this is hardly feasible except within wide limits. Another based on the size of the maps has had some consideration. Kretschmer was of the opinion that they could be divided into three groups, 30×20, 40×30, and 60×45 centimeters. It is true that there is a large number about 30×20, a few about 40×30, and more still larger; but there are also many about 22.5×15 and a few even smaller. The fact is that no classification based on the size of the maps is possible. Aside from those in the 30×20 and the 22.5×15 groups there are few of approximately the same size. Another inconvenience in employing this system is that it would be necessary to place in the same group atlases of quite distinct geographic characteristics. A division based on the number of maps in the atlases would give somewhat better results chiefly because at least one-third of them have the same contents, comprising besides the preliminaries: Nos. 1–3, the sections of the world-map on a plane

projection; No. 4, Northwest Europe; No. 5, Spain and Northwest Africa; Nos. 6–8, the Mediterranean in three sections; No. 9, the Black Sea; and No. 10, the oval world-map. This has been called Agnese's standard atlas, and such in a sense it was because he produced so many of them. If we add to these ten maps one of the Grecian Archipelago or of the Adriatic or a hemisphere (sometimes two of these), we shall have everything that Agnese produced down to 1545, except the world-map on a plane projection. Before the ten-map form became typical he had divided the normal portolan into only four or five sections instead of six, some atlases had no preliminaries, or at least have none now, and several have no armillary spheres. Sometime after 1545 an increase in the number of maps was made. Coincident with this a general increase in size took place which made it possible to divide the Mediterranean into two sections instead of three. To the usual maps, now reduced to nine, one of the old ones, that of the Grecian Archipelago, was added together with some land maps, making the total number thirteen to nineteen. Only a few more atlases of ten and twelve maps were produced. In October, 1554, Agnese issued one with thirty-one, and others of later date contain almost as many. Numbers vary as much as sizes. As neither of these methods of classification is sufficiently precise, another based on the geographical characteristics of the maps has been selected. My aim has been to arrange the atlases as far as possible in accord with a natural geographical evolution as evidenced by progressive discovery or later information. The result is none too satisfactory because Agnese himself was not always consistent, occasionally reverting to a type which he had already discarded. This is particularly noticeable in two cases. In one atlas dated February 5, 1544, Yucatan appears as a peninsula and in another dated July 1 of the same year it is still an island as on the early maps. In 1553 we find a similar occurrence.

In a previous discussion of the evolution of his cartography

it has been apparent that most of this took place on the west coast of North America, in the Indian Archipelago and China, and in the northwestern part of Europe. The latter, of course, did not register any new discoveries but only better sources. Similarly, changes made on the old Continent on the oval world-map were mostly corrections; discovery was taking place elsewhere. Early in 1542 the discoveries of Ulloa were added by Agnese to his map of the Pacific, and those of Marcos de Niza at a little earlier date. None of these is to be found on any of the maps of his contemporaries. It is true that in 1770 Archbishop Francisco Antonio Lorenzana reproduced in Mexico what he claimed to be a map made in 1541 by Domingo del Castillo, one of Hernando de Alarcón's pilots. There is no reason to doubt the veracity of the archbishop, but there might be some about that of Castillo. What is more likely is that the date was put on the map later by someone else than Castillo. Some such map must of course have been made about 1541, but there are so many inaccuracies on Castillo's that one cannot help but be somewhat suspicious of it. In any case the map was not made use of and remained hidden in the archives of Cortés himself until unearthed by the archbishop. Alarcón's discoveries did not appear on maps until some time afterward, and then only through Portuguese channels.

The appearance of the Peninsula of California on Agnese's map of the Pacific therefore furnishes us with a natural point of division into two periods, pre-Californian and post-Californian, the former including all his production up to early 1542, and the latter all after that date. In the pre-Californian period we have seen that there were several notable changes making necessary some subsidiary classification. In the second period the most striking changes were those of Yucatan from an insular to a peninsular form, the closing of the strait which had separated England and Scotland in the first period, and the appearance of a new map of Scotland. These were not made

NORTHWEST AND CENTRAL EUROP

(From

H THE NEW MAP OF SCOTLAND

V)

simultaneously but they had become established by about 1553. The appearance of a new and quite accurate map of Scotland was sufficiently important to justify us in setting up a third and final type to which Agnese adhered to the end. No later geographical innovations were made, but there were a few cartographical changes of some importance. This period was also characterized by the final abandonment of the line leading from Cadiz to Panama and thence to Peru. No apparent reason can be found for this change. Ships still continued to sail from Seville to the Isthmus of Panama.

The general classification then is as follows:

TYPE 1. PRE-CALIFORNIAN, from about 1535 to the end of 1541
TYPE 2. POST-CALIFORNIAN, from about 1542 to about 1552
TYPE 3. POST-CALIFORNIAN with a new map of Scotland, from about 1552 to 1564

The characteristics of the subdivisions appear at the head of each section.

The order in which the atlases are placed can only be considered as provisional as the study of those which I have not yet seen may possibly lead to some modifications. A star (*) means that I possess complete reproductions of the originals or else have examined them. A dagger (†) indicates that I have only reproductions of a few individual maps, usually No. 1, and the oval world-map. The measurements are those of Map 1 where not otherwise stated, and are width by height in centimeters inside the lines of the rectangle in which the map is inclosed. The map does not occupy the entire space inclosed by the sides of the rectangle, which accounts for the fact that there are slight differences in the sizes of these even when the maps are on the same scale. The same remark holds true in regard to the other maps. In the same atlas the rectangles are not always of the same size as that inclosing Map 1 but the differences are too slight to warrant mention.

The following list is inserted merely for convenience. The

atlases are arranged in the order of their issue as far as can be ascertained by the dates inscribed in them. In case they are not dated they are placed between the latest dated map of the same type and the one next dated, as it is obviously impossible to decide at what particular part of a period an undated map of any particular type may have appeared. In the description of the atlases which follows the list they are arranged in the same order. Only maps of Agnese authorship are counted, any added maps being described separately.

Type 1

I *London, British Museum, Old Royal Library, MS 14 C V, seven maps

II *Rome, Vatican, Barb. Lat. 4431 A, seven maps

III *Rome, Vatican, Lat. 7586, eight maps

IV *London, British Museum, Add. MSS 19927, eleven maps, dated October 13, 1536

V *Oxford, Bodleian, MS Can. Ital. 144, eight maps

VI †Lisbon, Sociedad de Geografía, nine maps

VII †Milan, Trivulziana, Cod. 2160, nine maps

VIII Venice, Museo Civico Correr, Cl. Port. V, ten maps

IX *Dresden, Sächs. Landesbibliothek, F 140*b*, ten maps

X *San Marino, Huntington Library, HM 25, ten maps

XI Paris, Baron Edmond J. Rothschild, nine maps

XII *Stockholm, Kungliga Biblioteket, ten maps

XIII *Paris, Bibliothèque Nationale, Fonds Latin 18249, ten maps

XIV †Brescia, Queriniana, Legato Martinengo I. III, 24, ten maps

XV *Berlin, Preussische Staats-Bibliothek, MS Hamilton 528, ten maps

XVI *Munich, Bayerische Staats-Bibliothek, Cod. Icon. 136, ten maps

Type 2

XVII *Vienna, National-Bibliothek, 311–156, ten maps

XVIII †London, Quaritch, Ltd., ten maps

XIX *Vienna, National-Bibliothek, Cod. 623, twelve maps dated February, 1542

XX *New York, Pierpont Morgan Library, M 507, ten maps dated May 15, 1542

XXI *Cassel, Landesbibliothek, MS Hist. 4°, No. 6, eleven maps dated June 3 or 8, 1542

XXII *Rome, Vatican Library, Pal. Lat. 1886, eleven maps dated June 28, 1542

XXIII *Glasgow, Hunterian Museum of the University, twelve maps dated September 25, 1542

XXIV †Harff a/Erfft, Schloss-Bibliothek, MS 61, twelve maps

XXV †Milan, Ambrosiana, S.P., II, 7, twelve maps

XXVI †Florence, Laurenziana, No. 245, eleven maps dated February 12, 1543

XXVII *Gotha, Herzogliche Bibliothek, Membran. II, No. 46, twelve maps dated February 18, 1543

XXVIII *Paris, Bibliothèque Nationale, 14410, ten maps dated June 25, 1543

XXIX *Dresden, Sächs. Landesbibliothek, Fl. 140*a*, ten maps dated February 5, 1544

XXX †Madrid, Biblioteca Nacional, R 176, eleven maps dated July 1, 1544

XXXI *Dublin, Trinity College, K 3.15, No. 917, eleven maps dated October 22, 1544

XXXII *Providence, John Carter Brown Library, eleven maps

XXXIII †New York, Mr. Lathrop C. Harper, ten maps

XXXIV *San Marino, Huntington Library, HM 26, eleven maps

XXXV †Turin, Biblioteca Reale, twelve maps

XXXVI *Chicago, Newberry Library (Ayer Collection), six maps

XXXVII *Venice, Marciana, Cl. IV, Cod. 492, twelve maps dated May 8, 1545

XXXVIII *Rome, Vatican, Barb. Lat. 4357, ten maps

XXXIX *Rome, Vatican, Barb. Lat. 4313, ten maps

XL *New York, Hispanic Society, fourteen maps

XLI Rome, Propaganda Fide, fourteen maps

XLII *Wolfenbüttel, Herzog August Bibliothek, Cod. 4, I Aug. 4°, ten maps

XLIII *New York, Pierpont Morgan Library, M 406, ten maps

XLIV *San Marino, Huntington Library, HM 10, sixteen maps

XLV †Montpellier, Bibliothèque de l'Université, H. 70, seventeen maps

XLVI †Florence, Biblioteca Nazionale, Cl. XIII, P. Cod. 5, ten maps

XLVII *Berlin, Preussische Staats-Bibliothek, MS Hamilton 529, sixteen maps

XLVIII †Venice, Museo Civico Correr, Port. 22, fourteen maps
XLIX *Munich, Universitäts-Bibliothek, Cod. MS 337*a*, nineteen maps

Type 3

L *Espelunda (Sweden), Count Alex Mörner, thirteen maps
LI †London, Henry Yates Thompson, thirteen maps
LII *New York, New York Public Library, fifteen maps
LIII *Königsberg, Staats- und Universitäts-Bibliothek, MS 2445, eleven maps
LIV *San Marino, Huntington Library, HM 27, ten maps dated July 8, 1553
LV *Venice, Museo Civico Correr, Port. 21, twenty-nine maps dated September 1, 1553
LVI *Venice, Marciana, Cl. IV, Cod. 6, thirty-one maps dated October 20, 1554
LVII †Westheim, bei Augsburg, Baron von Humann-Hainhofen, twenty-five maps dated March 24, 1555
LVIII †London, Quaritch, Ltd., twenty-three maps dated August 8, 1559
LIX †Naples, Biblioteca Nazionale, VIII D 7, twenty-six maps
LX †Florence, Laurenziana, Doni III, twenty-six maps
LXI *London, British Museum, Add. MSS 25442, eight maps, dated May 25, 1564
LXII *Oxford, Bodleian Library, Can. Ital. 142, eight maps

Not Located

LXIII Wolfegg (Württemberg), Fürstliches Kupferstich-Kabinett, No. 21, eleven maps
LXIV Venice, Abbé Celotti, eleven maps

Doubtful

LXV †Bologna, Biblioteca Universitaria, Cod. 997, eighteen maps
LXVI *Chicago, Newberry Library (Ayer Collection), fifteen maps
LXVII *Chicago, Newberry Library (Ayer Collection), nine maps
LXVIII †Turin, Biblioteca Reale, twenty-eight maps

The Gisolfo Group

LXIX †Florence, Riccardiana No. 3140, thirteen maps (Uzielli No. 263)

LXX †Florence, Riccardiana No. 3139, twelve maps 27×20 (Uzielli No. 268)

LXXI *Providence, John Carter Brown Library, twelve maps 34×22

LXXII *San Marino, Huntington Library, HM 28, eleven maps 38×24

LXXIII †Naples, Biblioteca Nazionale, VIII, D. No. 6, eleven maps 40×27 (Uzielli No. 265)

LXXIV *Paris, Bibliothèque Nationale 14411 (old No. 2625), ten maps 31×20

LXXV *Mexico, Sociedad de Geografía, eleven maps, 29.3×19.5

Type 1. *Pre-Californian* 1535 (?)–42

THE characteristics of this type, besides the absence of California, are the delineation of Yucatan as an island, the separation of England and Scotland, and the misplacing of Taprobana (as Ceylon) on the oval world-map. Except in IV, the farthest name on the Chinese coast on the world-map on a plane projection is "agoa da pācirada" and the only one of the Moluccas named is Gilolo.

"A" 1535 (?)

Without a map of the world on the plane projection. Holland appears as a single island on the map of Northwest Europe. On the oval map North America has a narrow elongated form, and a long narrow peninsula (Englonelant) extends west just north of Norway but unnamed.

I *London, British Museum, Old Royal MS 14 C V

The atlas comprises nothing but seven maps about 43.7×32:

Nos. 1, Northwest Europe; 2, West Mediterranean; 3, East Mediterranean; 4, Black Sea; 5, Adriatic; 6, Grecian Archipelago; 7, Oval world-map.

The map of the east Mediterranean is embellished with five vignettes of cities and the oval world-map shows Timistitan, but there are no other decorations, not even windroses, or cherubs' heads for windheads, on the oval world-map, nor does this contain any of the routes marked on later maps or the later Ptolemaic detail on the Old World, but at the west end there is a duplicate Gilolo.

The atlas, sometimes referred to as "Lord Lumley's," might be considered to be unfinished because of its lack of detail on the Old World and of at least one of Agnese's customary routes on the oval world-map, but it seems to be simply an earlier example of the system pursued in the four following atlases. It partakes of the peculiarities of the oval world-map in those atlases and contains like them, besides the maps of the normal portolan, additional old portolan maps which so far as known were not again produced by Agnese for some time.

"B" 1536

The same as "A" except with a world-map on a plane projection added (in IV also divided into three sections). On the oval map the route of Magellan around the world and that to Peru have been added (both without legends), as well as mountains and rivers. Duplicate Gilolos are shown at the west end; no Caspian Sea is depicted. In the one in IV the peninsula north of Norway is named "Engronelant." This map has already been sufficiently described. Decorative windroses appear on all the other maps.

II *Rome, Vatican, Barb[erini], 4431 A (old number, Barb. XLIX, 40) (Har. 7) (Kr. 8)[1]

On the zodiac is the inscription "1536 principivm martij aeqvinoctialis." At the beginning is a title in a late hand, "tabvlae nauticae oceani etc." The atlas comprises a declination table and an uncompleted zodiac on single pages, and seven maps 64.7×44.1:

> Nos. 1, World-map on a plane projection; 2, West Mediterranean; 3, East Mediterranean; 4, Black Sea; 5, Grecian Archipelago; 6, Northwest Europe; 7, Oval world-map.

At the end pasted in is an engraved view of Venice and an engraved map of Italy, both by Joannes Andrea di Vavassore.

On No. 3 are vignettes of Hiervsalem and Venetia.

The order of the maps neither corresponds to that in I or in atlases of later date, and I conclude that at some time they have become displaced in the process of binding. The measurement was very kindly made for me by Signor G. Mercati of the Vatican Library.

III *Rome, Vatican, Lat. 7586

On the zodiac is the inscription "1536" on the "Linea Eqvinoctialis." The atlas comprises a declination table and an uncompleted zodiac on single pages and eight maps 55.8×37.1:

> Nos. 1, Northwest Europe; 2, West Mediterranean; 3, East Mediterranean; 4, Black Sea; 5, Grecian Archipelago; 6, World-map on a plane projection; 7, Oval world-map; 8, Adriatic.

[1] The abbreviations "Har.," "Kr.," and "R" represent the lists published respectively by Henry Harrisse in the *Discovery of North America*, pp. 629–30, by Konrad Kretschmer in *Die Atlanten des Battista Agnese*, and by Walter Ruge in *Aelteres kartographisches Material* (Beiheft).

IV *London, British Museum, Add. MSS 19927 (Har. 3) (Kr. 5)

Not only has this an inscription on the zodiac like that in III but Map 5 also contains the following in large letters in the upper left-hand corner, "BAPTISTA AGNESIUS IANUENSIS FECIT VENETIJS 1536 DIE 13 OCTOBR." The atlas comprises a declination table and an uncompleted zodiac (with the string intact) on single pages and eleven maps about 59×41:

> Nos. 1, Pacific Ocean; 2, Indian Ocean; 3, East Mediterranean; 4, World on a plane projection; 5, Northwest Europe; 6, West Mediterranean; 7, Atlantic Ocean; 8, Black Sea; 9, Adriatic; 10, Grecian Archipelago; 11, Oval world-map.

The maps are not in the usual order, indicating that they became misplaced when the atlas was rebound.

That this is of a later date than II and III is manifested by numerous differences in the maps. A few rivers and mountains are shown on Nos. 5 and 6 and a number of towns are named, even two in Africa. The atlas is undoubtedly the earliest to contain the world on a plane projection divided into three sections, the Pacific, Atlantic, and Indian oceans. On that of the Pacific we find the most complete and accurate nomenclature on the Peruvian coast on any of Agnese's maps. In the main, however, it is the type followed on all subsequent maps. The Central American coast also contains more names than usual, more even than on Map 4. Most of the larger islands in the Moluccas are named, and we even find at the end of the Chinese coast the "rio de la sall," the "y. de s. croche," and "y. de los latrones," not reproduced for a long time but characteristic of Agnese's later maps. In many respects the atlas resembles more those of the period after 1545 than those of the 1536 period, and seems to furnish us with ample proof that the information added on the later maps was already in Agnese's possession in 1536. On Map 7 the Line of Demarcation is shown, and the prime meridian which is the old Ptolemaic one is so labeled. On Map 11 one of the Gilolos has disappeared and the south coast of Mexico is drawn somewhat differently from that on the corresponding map in II and III.

The most interesting maps in this group are the world-maps on a plane projection. While in the main they are the same, nevertheless there are some noteworthy differences. On that in II no names are found on the Central American coast except Panama, although the coast line extends west to exactly the same point as on the others. On

the Peruvian coast the only names are "baina de s. lorenzo," "baina de s. mateos," "p. viezo," "rio de tumbes," and "siera morena." No islands in the Atlantic or Pacific are named except the "maluche" at the east end of the map. Whether the omission of some of the names on the Central American and Peruvian coasts was intentional or due to a lack of knowledge or to carelessness it is difficult to say. It is, however, probably the earliest of the three. On that in III names have been added on the Central American coast, the last being "praia de cerezeda." On the Peruvian coast the names are also somewhat different, the last is "provincia de siera" and the one before it is "mal [abrigo];" in the interior a range of mountains has been added. No names are shown on the Chinese coast. That in IV is almost like that in III except that the Equator is graduated for longitude at intervals of 5° and the last name on the Central American coast is "sierra de gil gōcales de uila [davila]."

"C" 1538 (?)

The same as IV except that on the oval map a strait has been drawn in Northeast North America, through which an unnamed line of dots runs from a point on the west-central coast of France to Cataio. The other two routes are only named in VII.

V *Oxford, Bodleian, Can. Ital. 144 (Har. 2) (Kr. 4)

On the zodiac is the inscription "1536 die 10 martij linea aequinoctialis." The atlas comprises a declination table and an uncompleted zodiac (with the string still intact) on single pages and eight maps 57×39.5, except the oval map which measures 51.5×21.5:

> Nos. 1, Northwest Europe; 2, West Mediterranean; 3, East Mediterranean; 4, Black Sea; 5, Adriatic; 6, Grecian Archipelago; 7, World-map on a plane projection; 8, Oval world-map.

The atlas is bound in the original reddish-brown morocco over wooden boards simply tooled in two squares across each other.

The atlas is similar to IV, and if it contained the usual Maps 1–3 the resemblance would be no doubt still more marked. Numbers 1 and 2 lack the land features of Nos. 5 and 6 in IV, except for the names "Scotia," "Anglia," and "Hibernia." Number 7 is not graduated for longitude; it contains some additions of names for the islands near San Lorenzo [Madagascar], but these had already appeared on the Ribero map.

A sketch of the North American section of No. 8 was reproduced by Kohl in his *History*, Plate XV (3).

VI †Lisbon, Sociedad de Geografía

(Said to have had a date once but now erased.) The atlas comprises a declination table and a zodiac on single pages and nine maps said to measure as bound 26.5×23.4:

> Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe and Spain with parts of North Africa and the west Mediterranean; 5, West Mediterranean; 6, Central Mediterranean; 7, East Mediterranean; 8, Black Sea; 9, Oval world-map.

The description of No. 4 is somewhat ambiguous; it seems to be simply a combination of Agnese's later maps Nos. 4 and 5, but not extending so far south as his No. 5.

Described from the *Catálogo* of the *Exposiçao de Cartographia Nacional* (1903–1904) (Lisbon, 1904) and a photograph of No. 9 kindly given me by Colonel John Bigelow.

VII Milan, Trivulziana, Cod. 2160 (Har. 4) (Kr. 9)

On the zodiac is the inscription "Aeqvinoctialis. 1536," said to be in Agnese's handwriting. The atlas comprises a declination table and a zodiac on single pages and nine maps said to measure 30×21 [19.5 (?)]:

> Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe and Spain and Northwest Africa; 5, West Mediterranean; 6, Central Mediterranean; 7, East Mediterranean; 8, Black Sea; 9, Oval world-map.

At the end is a windrose of sixteen winds, no doubt surrounding a hole for a compass.

On Map 1 the nomenclature on the Central American coast has been extended as far west as the "rio serrado." Number 4 extends as far south as the Canary Islands and is probably the same as in VI. On No. 9 the route of Magellan is labeled "el viazo per tornar a le maluche" and the returning one "el tornar da le maluche"; the one to Peru is styled "el viazo di peru"; the third through the strait seems to have no name. According to Errera, "Englonelant" is an island, but I think this doubtful.

Described from the account by Carlo Errera in his *Atlanti* (1896).

I regret to state that so little reliable information about VI and VII can be given. A year of effort in both cases has failed to elicit

anything more than what is given here. The two atlases marked the beginning of a long period of small ones in which, however, the normal portolan was divided into only five sections, instead of six as in the one which shortly became standard.

"D" 1539–40 (?)

Agnese now abandoned his earlier type of North America on the oval world-map with its strait as in "C" and adopted the Verrazano type, but the "viazo de fransa" still exists, extending to Cataio, only now across the Verrazano isthmus. The other two routes are named "viazo di peru" and that of Magellan as in VII. Instead of a narrow peninsula north of Norway, Norway itself is prolonged to the North Pole. Twelve windheads have been added to it. On the map of the Pacific the last name on the Central American coast is the "rio serrado." On the map of Northwest Europe Holland appears as an island with two breaks on the west coast. Although two of the atlases in this group have the date "1536" on the zodiac, there are reasons to suppose that they were not actually produced until later.

VIII †Venice, Museo Civico Correr, Cl. Port. V (Har. 1) (Kr. 3)

On the zodiac on the equinoctial line is the following: "1536, Die 10 Martii." The atlas comprises a declination table [a blank page (?)], a double-page zodiac, and ten maps 29.9×19.5 to 19.7:

> Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

On No. 8 the legend "el diserto che passo soltā Selim per andar al Cairo" apparently makes its first appearance.

The atlas was first described by Uzielli (No. 167) who stated that it belonged to Nicolò Barozzi. Harrisse states that it is the same as Uzielli described as No. 166 and was found in Padua; it seems that Barozzi really bought it for the Museo Civico Correr. Later Malavialle described it.

IX *Dresden, Sächs. Landesbibliothek, F 140*b* (Har. 6) (Kr. 7) (R. 3)

On the zodiac is written "Linea Eqvinoctialis 1536." (It has been asserted that this is not in Agnese's handwriting.) The atlas comprises a page of declination tables, a blank page, an uncompleted double-page zodiac, and ten maps 29×19:

Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

It is said to have a characteristic Agnese binding.

On No. 10 the prime meridian is labeled "linea meridiana tholomei." Number 8 does not contain the Selim legend.

The west half of the oval map was reproduced by Kohl, in his *History*, Plate XIV.

X *San Marino, Huntington Library, HM 25 (Har. 5) (Kr. 10)

At the beginning is a windrose with a shield in the center from which the arms seem to have been painted out. The atlas comprises a declination table, a blank page, an uncompleted double-page zodiac, and ten maps 29.3×19.3:

Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

It has one of Agnese's so-called characteristic bindings with three ornaments in the panels said to be of Chinese origin, and the original four clasps.

On No. 10 the prime meridian is labeled "linea meridiana tholomei," and the "viazo di fransa," unnamed, only extends halfway to Cataio. Number 8 does not contain the Selim legend.

This beautiful little atlas came from the Phillipps Collection, No. 8275, and was formerly in that of Heber, who apparently bought it at the sale of the books of Guyon de Sardière and paid twenty-one pounds for it.

"E" 1541 (?)

The atlases in this section are similar to those in "D" except that towns referred to by Marcos de Niza in his narrative are found on the oval world-map, and the "viazo de fransa" extends only to about 110° W. longitude.

XI Paris, Baron Edmond J. Rothschild (Har. 28) (Kr. 40)

The atlas comprises a calendar [declination table(?)], a frontispiece of an old man in oriental costume weighing a sphere and a zodiac, on single pages and nine maps 18×12:

Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, East Mediterranean; 8, Black Sea; 9, Oval world-map.

At the end are two pages, one of Atlas carrying the world and the other with the arms of Charles V. Each double page is surrounded by a border which together with the miniatures are attributed to Giulio Clovio. The binding is Italian with foliage and incrusted with turquoises and little headpieces [*cabochon*].

Described from the account given by Harrisse in his *Discovery* and from information kindly furnished by the owner. The list of maps is a conjectural one based on a statement of Baron Rothschild that No. 4 does not show Northwest Africa and but little of Spain, thus implying that No. 5 shows Spain and Northwest Africa. He also confirms the statement of Harrisse about the line of dots on the oval map which represent the "viazo di fransa," but says it stops in the middle of the Pacific. I have not been able to ascertain whether it also shows the towns named by Marcos de Niza, but take it for granted that it does because the atlas seems to be similar to XII. However, if the zodiac is only on a single page the atlas may be earlier.

XII *Stockholm, Kungliga Biblioteket (Har. 25) (Kr. 43)

The atlas comprises a page of declination tables, a blank page, an uncompleted double-page zodiac, and ten maps 22.2×15.3:

Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, East Mediterranean; 8, Grecian Archipelago; 9, Black Sea; 10, Oval world-map.

The atlas is bound in what is said to be red leather with gold impressions.

On No. 10 Scotland is without the extension to the east; No. 8 does not contain the Selim legend.

Maps 1, 2, 3, and 10 were reproduced in Nordenskiöld, *Periplus*, Plate XXIV.

XIII *Paris, Bibliothèque Nationale, Fonds Latin 18249 (Har. 22)

The atlas comprises an armillary sphere opposite to which is a coat-of-arms in a shield which resembles one of Agnese's intermediate shields, with the name Dominicus de Bossis on a ribbon at the top; then follow a declination table and opposite this a miniature of a

crucifix with a woman on each side of it, then a fully painted double-page zodiac but without a sphere in the center, and ten maps 29×19.5:

Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

Each of the designs at the beginning is surrounded by a border, and at the end is a double page with an elaborate border but with nothing in the rectangle.

On No. 10 Scotland is without the extension to the east; No. 8 does not contain the Selim legend.

This seems to be the first atlas in which an armillary sphere appears.

XIV †Brescia, Queriniana, Legato Martinengo I. III, 24 (Kr. 49)

The atlas comprises ten maps 30×23 (?).

Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

On No. 10 Scotland appears without the extension to the east.

Described from a very brief account by Bellio in his *Notizia* and photographs of Maps 1 and 10. It undoubtedly has a double-page zodiac before the maps and a table of declinations, possibly also an armillary sphere as in XIII.

"F" 1541 (?)

The same as "E" except that the "viazo di fransa" on the oval map has been abandoned and the names of Marcos de Niza omitted.

XV *Berlin, Preussische Staats-Bibliothek, MS Hamilton 528 (Kr. 53 or 54) (R. 8)

The atlas comprises a page containing a declination table, a blank page, an uncompleted double-page zodiac, and ten maps 30×20:

Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

The binding is like that on X. On No. 10 Scotland is without the extension to the east; No. 8 does not contain the Selim legend.

XVI *Munich, Bayerische Staats-Bibliothek, Cod. Icon. 136 (Har. 27) (Kr. 28) (R. 7)

The atlas comprises three plates of figures and cosmographical data, probably the usual declination table, armillary sphere and double-page zodiac, and ten maps about 30×19.5 (or a little less):

Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

Number 10 has the old Ptolemaic extension of Scotland to the east; No. 8 does not contain the Selim legend.

Number 10 has been reproduced by Oskar Peschel in his *Ueber eine italienische Weltkarte.*

Type 2. *Post-Californian* 1542–52 (?)

THE general characteristic of this type is the appearance of the Peninsula of California. Only the routes of Magellan and that to Peru are shown on the oval map, except on that in XVII, which still has all three. North America is of the Verrazano type except in XLIX, and Yucatan is an island except in XXIX. Scotland on the map of Northwest Europe is of the square shape, and, except in XLVIII and XLIX is separated from England by a narrow strait.

"A" 1542 (?)

An intermediate type with the Peninsula of California shown but without names beyond the "rio serrado." On Map 4 "olāda," "barbāt," and "utrech" are shown on a single island with two breaks on the west coast, and on Nos. 4–8 a few names of provinces appear. On No. 10 in XVIII, but not in XVII, Scotland has the extension to the east.

XVII *Vienna, National-Bibliothek, 311–156 (old number, 7984) (Har. 37) (Kr. 44)

The atlas comprises a declination table and an armillary sphere on single pages, a completed double-page zodiac, and ten maps 30×21.8:

Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with Spanish names; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

On No. 10 the "viazo di fransa" ends about 10° beyond the Verrazano isthmus; No. 8 does not contain the Selim legend.

XVIII †London, Quaritch, Ltd.

The atlas comprises a declination table and an armillary sphere on single pages, a completed double-page zodiac with the string in the center still intact, and ten maps about 30×19.5:

Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

On the inside of the front cover are the remains of a compass surrounded by a windrose, and the atlas is said to have an original binding of Italian brown morocco.

Number 1 does not show the Peninsula of California, but No. 10 does, while the "viazo di fransa" is omitted.

Described from information kindly communicated by Quaritch, Ltd., and from photographs of Maps 1 and 10.

Generally speaking, the maps in these two atlases are not marked by any great similarity beyond that which can usually be found on any two maps of Agnese of the same territory. In XVII Map 1 displays a large mountain in South America entirely different from the small ranges usually shown on it. The Peninsula of California is depicted but there are no names beyond the "rio serrado." Above the head of the gulf, however, is a legend always found on later maps except in XVIII: "Mar vermeio que en la canal de plena mar ay xi brazas baja mar viii." A bunch of trees is also found in the Moluccas. None of these features is found in XVIII, in which on Map 10 however the Peninsula of California is duly delineated. No windheads have been added to this map, but the lines leading to them have been drawn in, showing that it is unfinished. One of its curious features is the name "guinsai" written above the vignette intended for Mexico City while the usual name "timistitan" has been moved down south of it into the ocean. In view of its unfinished state it is not at all unlikely that Agnese forgot to extend his Map 1 to include the Peninsula

of California. Both atlases may even have been made in 1542 and never finished although the one in Vienna, aside from the omission of names on California, is a very complete atlas.

"B" 1542

Like "A" except that California now appears with names. The "viazo di fransa" has been permanently abandoned. Few if any of the atlases have the old extension of Scotland to the east on the oval map. The Selim legend is found on all maps of the east Mediterranean observed.

XIX *Vienna, National-Bibliothek, Cod. 623 (Har. 39) (Kr. 45)

At the upper left-hand corner of No. 1 is the partially effaced inscription "baptista agnese ianuensis fecit venetiis 15—die Februarij, No. 1." The atlas comprises one of Agnese's early characteristic shields with the chevron missing, a declination table and an armillary sphere on single pages and a completed double-page zodiac with an Atlantic hemisphere in the center, and twelve maps 23.4×15.4:

> Nos. 1, Pacific Ocean, Vermeio type with the legend reading south to north; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with names in Spanish; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea with eight windheads; 10, Grecian Archipelago; 11, Oval world-map; 12, Atlantic hemisphere.

I take the inscription on Map 1 from Franz Wieser, who examined the atlas many years ago. It differs from the ordinary ones of Agnese in being on the first map and in having the figures "15" written larger than usual. Whether the "No. 1" at the end refers to the fact that the map is No. 1 of the atlas or whether it was intended to represent the first of the month is uncertain. The two figures after "15" have clearly been erased, but I believe that they must have been "42" for the following reasons. The atlas clearly belongs to the 1542 group. February 12, 1543, a signed atlas (XXVI) was issued by Agnese on which on Map 4 "olāda," "barbāt," and "utrech" appear as distinct islands and no later dated map shows them on a single island with two breaks on the west coast as is characteristic of this map and of the 1542 group. We can hardly, then, date this atlas after February 12, 1543, and it is unlikely that only twelve days before Agnese would have issued an atlas with a map like the No. 4 in this one, supposing that the "No. 1" at the end of the inscription refers to the day of the month. There is still another reason for thinking that it belongs to the 1542

group: The legend about the "mar vermeio" is written from south to north (instead of from west to east), like the one on the corresponding maps in XXIV and XXV which certainly belong to the 1542 group. There are some objections to this theory which it may be well to state. On No. 1 two names appear on the Peninsula of California, "y riparo" and " s cristoval," which are lacking on that in XX, the first dated atlas to show Ulloa's names. The "y riparo" is found on the corresponding maps in XXII and XXIII, but "s cristoval" is not found on a dated map before that in XXVI. Further, in 1542 Alonso de Santa Cruz made a map which does not show the discoveries of Ulloa, and as he was certainly better informed than Agnese could possibly have been in regard to Spanish discoveries it is difficult to see how the latter could have put out one showing these discoveries as early as February in the same year. We can probably find the answer to this when we observe that the map of Santa Cruz must have been drawn much earlier, just after the news reached Spain of the Cortés expedition of 1535 and 1536 to the Peninsula of California.

There are some striking peculiarities in the nomenclature found on Map 1. Names are shown on the east coast of South America, north of the Rio de la Plata, and some on the northeast coast of North America beyond the inscription about Steuen Comes which almost invariably appear only on Map 2. On the northwest coast of North America we find all the names which ever appeared on the usual corresponding maps, and what is more, more correctly written.

XX *New York, Pierpont Morgan Library, M 507

On No. 9 is the inscription "baptista agnese fecit uenetijs 1542 die 15 mai." The atlas comprises a double-page windrose with two circles around it with the names of the winds, the inner in Italian and the outer in a mixture of Dutch and High Dutch, a declination table and an armillary sphere on single pages, an uncompleted double-page zodiac with the string intact, and ten maps 29.5×19.5:

> Nos. 1, Pacific Ocean, Vermeio type with the legend written obliquely; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

The atlas is not in its original binding. The windrose at the beginning is not like Agnese's work.

It was obtained from Leo S. Olschki in Florence, but the previous history of it is unknown.

XXI *Cassel, Landesbibliothek, MS Hist. 4°, No. 6 (R. 4)

On No. 9 at the upper left-hand corner is the inscription "baptista agnese Januensis fecit uenetijs 1542 . . . . Junij." There is a figure before the "Junij" which may be a "3" or an "8" as most of it is covered by the cherub's head of the northwest wind. The atlas comprises one of Agnese's early characteristic shields with the chevron missing and a declination table and an armillary sphere on single pages, a completed double-page zodiac, and eleven maps 29.2×19.4:

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with names in Spanish; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map; 11, Atlantic hemisphere.

There is a compass in the back cover surrounded by a thirty-two-point windrose. The binding resembles that on X, but there are four ornaments in the panels instead of three as on the binding of that atlas. There are several blank pages at the beginning and after the maps.

The only peculiarities of the maps in this atlas are on No. 1, which is like that in XXII, and on No. 4, where "olāda" and "brabat" appear on one island and "utrech" on another.

Described from a set of photostats kindly loaned me by the Library of Congress and information courteously supplied by the director of the library.

XXII *Rome, Vatican Library, Pal. Lat. 1886 (Kr. 11)

On No. 9 is the inscription "baptista agnese Januēsis fecit uenetijs 1542 die 28 Jun." The atlas comprises a vacant characteristic early Agnese shield, declination table and an armillary sphere all on single pages, a completed double-page zodiac with an Atlantic hemisphere and a piece of string still intact in the center, and eleven maps 29.6×19.5:

> Nos. 1, Pacific Ocean, Vermeio type with the legend written from west to east; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with the names in Spanish; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea with eight windheads; 10, Oval world-map; 11, Atlantic hemisphere without names.

Kretschmer was mistaken in giving the date as June 8.

Map 1 is somewhat different from the usual map, several names be-

ing omitted on the Sonora side, as well as "b. s. abad" on the outer coast of the peninsula. "Y riparo" is found south of Cazones.

XXIII *Glasgow, Hunterian Museum of the University (Har. 38)

On No. 9 is the inscription "baptista agnese ianuēsis fecit uenetijs anno dñi 1542 die 25 setembris." The atlas comprises an early characteristic Agnese shield containing a monogram, a declination table and an armillary sphere on single pages, a completed double-page zodiac with an Atlantic hemisphere in the center, and twelve maps 22.4×15.4:

> Nos. 1, Pacific Ocean, Vermeio type with the legend written from west to east; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with the names in Spanish; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea with eight windheads; 10, Grecian Archipelago; 11, Oval world-map; 12, Atlantic hemisphere without names.

In the *Catalogue* of the Museum the atlas is said to be dated 1544 but this is a mistake. Although the last figure in the date is not too clear it is almost certainly a "2," and besides the atlas belongs to the 1542 group.

XXIV †Harff a/Erft, Schloss-Bibliothek, MS 61 (R. 13)

The atlas comprises a dedication to one Adolphus, the administrator of the church at Cologne with his arms in a shield on the opposite page, two blank pages, a declination table and an armillary sphere on single pages, two blank pages, a double-page zodiac, two blank pages, and twelve maps 21.8×15.5:

> Nos. 1, Pacific Ocean, Vermeio type with the legend written from south to north; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Grecian Archipelago; 11, Oval world-map; 12, Atlantic hemisphere without names.

There is a compass in the back cover and the atlas is bound in leather with simple gold stripes on the edges. Added to the inscription to Adolphus is a note in pencil that this was Adolph von Schaumburg, administrator from 1536 to 1546.

Described from photographs of Maps 1 and 11 and full information regarding the other maps kindly sent me by the present owner of the atlas, Count Theodor Mirbach-Harff. He writes me that it came to

one of his ancestors about 1700 from the last of the Gymnich family, who possessed an estate about thirty kilometers from Harff. As the Count is also the possessor of the great Mercator map of 1569 which bears a personal inscription from Mercator to Freiherr von Gymnich we might perhaps reasonably assume that Mercator once owned this atlas.

XXV †Milan, Ambrosiana, S.P. II, 7 (Kr. 34)

The atlas comprises a declination table and an armillary sphere on single pages, a double-page zodiac (probably completed), and twelve maps 22.3×15(?):

> Nos. 1, Pacific Ocean, Vermeio type with the legend written obliquely; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Grecian Archipelago; 11, Oval world-map; 12, Atlantic hemisphere with numerous names.

Judging from Errera's description, there is a windrose of thirty-two winds in the back, which either now surrounds a hole for a compass or did formerly.

Although the same shape of North America is shown on No. 12 as on the oval map, land is added north of the sea above Nova Francia and the Antarctic continent differs from that on Agnese's regular oval map. Besides the names on the map three ships appear, and numerous towns of North and South America are represented by vignettes. I have an idea that Agnese inserted his usual Atlantic hemisphere and later some individual attempted to improve it.

Described from photos of Maps 1–5, 11, and 12 and the description of the others by Carlo Errera in his *Atlanti*.

"C" 1543–45 (?)

In general like "B" except that on the map of Northwest Europe "olāda," "barbāt," and "utrech" appear as three distinct islands. The Selim legend is found on all maps of the east Mediterranean observed except where noted. On some of the oval maps the extension of Scotland to the east is shown and on others not. Magellan's name for the strait is spelled "Maglanes" instead of "Magallanes" as on earlier maps. When the map of the Black Sea contains any windheads the names are in Italian.

XXVI †Florence, Laurenziana, No. 245 (Har. 10) (Kr. 12)

On No. 9 is the inscription "baptista agnese Januēsis fecit uenetijs 1543, die 12 februarij." The atlas comprises a frontispiece with the arms of Cosimo I (now missing), a declination table and an armillary sphere on single pages, a completed double-page zodiac, and eleven maps 29.5×19.4:

> Nos. 1, Pacific Ocean, Vermeglio type; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea with eight windheads; 10, Oval world-map; 11, Atlantic hemisphere.

A compass is inserted in the back cover.

As an illustration of Agnese's lack of consistency it may be noted that on No. 10 in the legend at the head of the Gulf of California, which happens to be also inserted on this map, we have "Vermeio" instead of "Vermeglio" as on No. 1. Furthermore, he has drawn Scotland with the long extension to the east although he had abandoned it sometime previously.

The atlas was given to the library in 1793 by the Grand Duke Ferdinand III. On account of its interesting provenance it has been described several times, most recently by Malavialle.

Described from photos of Nos. 1, 2, 9, and 10, Malavialle's article, and information from Mr. Otto Lange.

XXVII *Gotha, Herzogliche Bibliothek, Membr., II, 46 (formerly 146) (Har. 9) (Kr. 17) (R. 5)

On No. 9 is the inscription "baptista agnese fecit uenetijs 1543 die 18 februarij." The atlas comprises a full-page miniature of an allegorical subject said to represent Pazienza triumphing over the terrors of war, a page opposite with a more modern inscription in Latin about the ownership of Johann Ernest, Duke of Saxony, a declination table and an armillary sphere on single pages, a completed double-page zodiac with a small Atlantic hemisphere in the center, and twelve maps 22.75×15.75:

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with the names in Spanish; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea with eight windheads; 10, Grecian Archipelago; 11, Oval world-map; 12, Atlantic hemisphere of the same type as the world-map.

A compass is inserted in the back cover and the binding is said to be of red morocco.

For some reason this atlas has frequently been referred to as dated 1546 instead of 1543, but there can be no question about the figures 1543 being the correct ones.

XXVIII *Paris, Bibliothèque Nationale, 14410 (old number, B 2624) (Har. 11) (Kr. 14).

On No. 9 is the inscription "baptista agnese Januēsis fecit uenetijs anno Domini 1543, die 25 junij." The atlas comprises a vacant shield, a declination table and an armillary sphere on single pages, a double-page zodiac, and ten maps 29.5×19.5:

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

Described from photos of Nos. 1, 2, and 10 and the description by Vallée in the *Catalogue des vélins de la section des cartes* (1917), No. 1. Vallée states that it came from M. Piccolomini of Siena.

Map 1 was reproduced by the writer in *California voyages*.

XXIX *Dresden, Sächs. Landesbibliothek, MSS Fl. 140*a* (Har. 12) (Kr. 15) (R. 6)

At the top of No. 9 is the following inscription, "baptista agnese Januēsis fecit uenetijs 1544 die 5 februarij." The atlas comprises a vacant early characteristic Agnese shield, a declination table and an armillary sphere on single pages, an uncompleted double-page zodiac with a small Atlantic hemisphere in the center, and ten maps 30×19.5:

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with names in Italian and High Dutch; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

The atlas has a red morocco binding with a compass at the end surrounded by a thirty-two-point windrose.

In this atlas Yucatan appears as a peninsula with a narrow connection like that on Mercator's map of 1538. The shape of North America shows transition; the Verrazano isthmus is preserved but the Terra de Bacalaos is different from that on the 1542 and 1543 maps.

XXX †Madrid, Biblioteca Nacional, R 176 (old number, Aa 150)

On No. 9 at the top is the inscription "baptista agnese fecit uenetijs 1544. die primo Julij." The atlas comprises a blank page, an armillary sphere, a double-page zodiac, and eleven maps 21.8×15.2:

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with names in Spanish; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea with eight windheads; 10, Grecian Archipelago; 11, Oval world-map.

At the end a polar map of the Northern Hemisphere 15.8 in diameter, surrounded by four windheads, and another of the Southern Hemisphere, which could hardly have been made by Agnese, have been added. The former is of the Verrazano type with a legend near the isthmus, "Inventa per Regis Francie." The Peninsula of California does not appear on it, and America is joined to Asia at the Arctic Circle where the word "Incognita" appears. The Gulf of Mexico is called "Mare Ivchatanicvm," and Yucatan (unnamed) is a peninsula. In the back cover is a hole for a compass surrounded by a windrose, and the binding is the original red morocco with marks of clasps.

For some reason Agnese neglected apparently to insert a declination table in this atlas.

Described from photographs by Dr. L. C. Karpinski of Maps 1, 2, 11 and the north polar map, and information kindly furnished by Mr. Worthington C. Ford and Mr. Roland D. Hussey who examined the atlas at my request.

XXXI *Dublin, Trinity College, K 3.15, No. 917

On No. 9 is the inscription "Baptista agnese ianuēsis fecit uenetijs 1544 die 22 octob'." The atlas comprises two pages of arms, the one on the right being in a shield the bottom of which resembles Agnese's later characteristic type, a declination table and an armillary sphere on single pages, an uncompleted double-page zodiac with a sphere in the center and some flower ornaments in the frame outside of it, and eleven maps 21.3×15.2 (with the borders 27.8×20.5):

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with names in Spanish; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea with eight windheads; 10, Grecian Archipelago; 11, Oval world-map.

Not only the maps but the three leaves at the beginning are surrounded by borders, mostly of floral design. The margins on some of the maps have been encroached on by these borders, furnishing evidence that they were added later. The arms at the beginning are interesting, the one on the first page being a sea horse in a medallion with four stars above and three below. Those on the second page are what are called the "modern arms" of the Medici family. Below this is a line in which it is stated that the book belonged to Leonardo Marinori of Ancona.

A peculiar feature on Map 4 is the raising of Venice several degrees so that it is in about the same latitude as Paris. The map is also cut off just above Scotland.

There seems to be no previous record of this atlas.

XXXII *Providence, John Carter Brown Library (the so-called Charles V atlas) (Har. 29) (Kr. 18)

The atlas comprises two pages containing on the left-hand one a portrait of Charles V in a medallion, underneath which is a large oval medallion containing a fancy picture; under this is an inscription; "Philippo Caroli Aug. F. optimo princ. Providentia"; on the right-hand one are the arms of Castile and Aragon; a completed double-page zodiac with an Atlantic hemisphere in the center; then a page of declination tables and another with a figure of Jupiter, the border containing astronomical instruments; and eleven maps 22×15 (28×21 with the borders):

> Nos. 1, Oval world-map with four vignettes in the corners; 2, Spain and Northwest Africa; 3, Northwest Europe; 4, West Mediterranean; 5, Central Mediterranean; 6, Black Sea; 7, Grecian Archipelago; 8, East Mediterranean; 9, Indian Ocean; 10, Atlantic Ocean; 11, Pacific Ocean, Vermeio type.

When the atlas was rebound the maps were placed out of order and unfolded. Not only the maps but the preliminary pages are surrounded by highly decorated borders. Number 3 shows plainly that the borders have encroached on the map.

Number 4 is like No. 4 in XXXI.

First described by Dr. Franz Wieser in his *Der Portulan des Infanten.*

Reproduced by the former owner, Frederick Spitzer, in Paris, 1875, as *Portulan de Charles-Quint donné à Philippe II*, with an Introduction by Charles Wiener who declared that the atlas had been made in

1539 because it did not show Valdivia's discoveries in Chile after 1540. He attributed it to some monks but in a footnote stated that Mr. Major, of the British Museum, had ascribed it to Agnese. Dr. Wieser on the contrary considered it to have been made in 1548 because Philip II was in Milan in that year.

XXXIII †New York, Mr. Lathrop C. Harper (R. 12)

The atlas comprises a declination table and an armillary sphere on single pages, an uncompleted double-page zodiac with a small Atlantic hemisphere in the center, and ten maps 29.5×19.5:

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

In the back cover there is a compass (with the needle missing) surrounded by a windrose, and according to Ruge's description the binding may be a characteristic Agnese binding. The verso of the first leaf contains an inscription that it belonged to Heronimous Ruffault, the abbot of St. Vedasti and St. Adrian, and in the front is a notation in a later hand that this man was abbot from 1537 to 1563 of S. Vaast, a Benedictine convent in Arras.

Described from photos of Nos. 1, 2, 4, and 10, information kindly furnished by Mr. Otto Lange in Florence, who at one time offered the atlas for sale, and by the present owner. It formerly belonged to the Fürstl. Stollberg-Wernigerodische Bibliothek and under its number Zi 14 was described by Walter Ruge in his *Aelt. kart. Material.*

XXXIV *San Marino, Huntington Library, HM 26 (Har. 8) (Kr. 13)

The atlas comprises an early Agnese characteristic shield containing a coat-of-arms, a declination table and an armillary sphere on single pages, a completed double-page zodiac with a small Atlantic hemisphere in the center, and eleven maps 29.5×19.3:

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with Spanish names; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea with eight windheads; 10, Oval world-map; 11, Atlantic hemisphere without names, taken from the oval map except that it shows a vast antarctic continent.

At the end is a half vellum sheet pasted on the binding with a windrose surrounding a hole for a compass. Three blank leaves precede

this, and there are four blank leaves at the beginning. The atlas is in Italian binding of oak boards covered with purple morocco with gilt lines and ornaments and four clasps, like that on X except that it has only two of the so-called Chinese ornaments in the panels. The whole is still in a perfect state of preservation. It is not dated as usually stated.

It came from the Huth Library, No. 5916 of the Huth sale, 6th portion, 1917.

A sketch of the northeast coast of America in Kohl's *History*, Plate XVII (3).

XXXV †Turin, Biblioteca Reale (Har. 34) (Kr. 30)

The atlas comprises a frontispiece with the arms of Cardinal Guido Ascanio Sforza di Santa Fiora (cardinal from 1534 to 1564), a declination table and an armillary sphere on single pages, a double-page zodiac, and twelve maps 20.5×14:

> Nos. 1, Pacific Ocean, Vermeglio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with Spanish names; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Grecian Archipelago; 11, Oval world-map; 12, Atlantic hemisphere, without names, like that on the oval map.

Bound in red morocco with gold tooling and with a compass in the front cover covered with a glass disk.

Described from photos of Nos. 1, 2, 3, 11, and 12, and information lately obtained from Professor Alberto Magnàghi, the description published by him in 1908 in the *Riv. geog. italiana* having been incorrect.

Numbers 4 and 10 reproduced by Wuttke in his *Die Karten der Seefahrenden Südeuropas*.

XXXVI *Chicago, Newberry Library (Ayer Collection)

The atlas comprises merely six maps 29.75×19.5:

> Nos. 1, Northwest Europe; 2, Spain and Northwest Africa; 3, West Mediterranean; 4, Central Mediterranean; 5, East Mediterranean; 6, Black Sea.

In the back cover there is a small compass with a windrose surrounding it, and the atlas is bound in reddish-brown morocco with the same designs on the panels as in XXXIV.

No Selim legend appears on No. 5.

There is nothing to show that the atlas is imperfect; it is probable that it was made up for some purchaser who only wanted the maps of the normal portolan.

XXXVII *Venice, Marciana, Cl. IV, Cod. 492 (Har. 13) (Kr. 16)

Number 9 is signed at the bottom "baptista agnese fecit uenetijs 1545 die 8 mai." The atlas comprises a vacant early characteristic shield, a declination table and an armillary sphere on single pages, an uncompleted double-page zodiac with a small Atlantic hemisphere in the center, and twelve maps 44×29:

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean, 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea with eight windheads; 10, Oval world-map; 11, Grecian Archipelago; 12, Italy and the Adriatic.

The table of declinations is in a different handwriting from that in earlier Agnese atlases.

This is the earliest dated atlas to contain a new map, and from now on we see a radical departure from the standard type. Some of this class were, however, still issued, and therefore some of the undated atlases in this group may be later than this.

Described from photographs kindly lent me by the Library of Congress. I have not been able to verify the measurements of the maps which are those given by Uzielli (No. 176).

"D" 1545+

The same as "C" except that the usual Map 4 (Northwest Europe) is now extended to cover all of North and Central Europe and contains like No. 5 (Spain and Northwest Africa) numerous towns and rivers. More Spanish names are Italianized on these maps than on earlier ones. On the oval map Scotland has the old extension to the east.

XXXVIII *Rome, Vatican, Barb. Lat. 4357 (old number, XLVIII, 125) (Har. 36) (Kr. 41 or 42)

The atlas comprises a page with a cartouche containing a dedication to Henry VIII and opposite another with the arms of Great Britain, a declination table and an armillary sphere on single pages, and an uncompleted double-page zodiac with a small Atlantic hemisphere in the center, and ten maps 35.5×21.9:

Nos. 1, Pacific Ocean, Vermeglio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with the names in Italian; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

At the end is a picture of the Barberini Library, and in the back cover there is a compass surrounded by a thirty-two-point windrose with English names for the winds.

On No. 4 the strait between Scotland and England has been effaced by a later hand, the name "Scotia" has been changed and others such as "Britānicū mare" for the English Channel inserted.

The leaf with the picture of the Barberini Library contains two portraits and a Latin inscription signed Georgius Conneus, referring to the Library and two Barberinis, obviously the two whose portraits are shown. George Conn was a Scotch theologian who, according to Harrisse in his *Discovery*, went to England as papal *nuncio* in 1636 and remained there until 1639, dying shortly after his return to Rome. Francesco Barberini, who was pope as Urban VIII and had sent him, is one of the two referred to in the inscription, which seems to indicate that Conn may have acted as librarian. The opinion of Harrisse that Conn might have brought the atlas back from England is not at all improbable.

XXXIX *Rome, Vatican, Barb. Lat. 4313 (old number, Barb. XLVIII, 81) (Har. 35) (Kr. 41 or 42)

The atlas comprises a blank page and opposite a shield inclosing a cardinal's coat-of-arms, a declination table and an armillary sphere on single pages, an uncompleted double-page zodiac with a small Atlantic hemisphere in the center and a piece of the string, and ten maps 29.6×19.6:

Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with three sets of names in Italian, High Dutch, and Spanish; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10; Oval world-map.

At the back there is a hole for a compass with a windrose painted around it.

This atlas is almost identical with the preceding. The shield containing the coat-of-arms is quite different from those in earlier atlases and all later known ones except XL and XLII. The arms are those of

the Barberini family according to Harrisse, and as a cardinal's hat surmounts them the atlas obviously belonged to Cardinal Barberini.

XL *New York, Hispanic Society

The atlas comprises three coats-of-arms, two on the left-hand page and that of a bishop on the right-hand one, in shields like that in XXXIX, a declination table and an armillary sphere on single pages, an uncompleted double-page zodiac with a strange-looking Atlantic hemisphere in the center, and fourteen maps 50.5×35:

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, East Mediterranean; 8, Black Sea; 9, Italy and the Dalmatian coast; 10, Grecian Archipelago; 11, Map of the world on a plane projection; 12, Oval world-map; 13, Palestine; 14, Scandinavia.

Number 9 is entirely different from the Adriatic map (No. 12) in XXXVII and bears a very marked resemblance to the map of Italy by Giovanni Andrea di Vavassore which is pasted in the back of II. Numbers 11, 13, and 14 have been already described. The great size of the maps permitted the Mediterranean to be divided into two sections only and gave room on other maps for the insertion of more names. Thus we find on Nos. 1–3, which are graduated for 5° of latitude and longitude, names on the Caribbean side of the Central American coast on No. 1, and on both Nos. 1 and 2 a large blue Lake of Maracaibo. On the south Mexican coast of No. 1 the nomenclature is somewhat different from that on earlier maps, errors being common. On No. 3 neither the Nile in Africa nor the Moluccas at the east end are shown. The most interesting feature of the atlas is the appearance on Map 4 of numerous sovereigns seated on their thrones. Those on England and Scotland have obviously been copied from No. 14 which were taken from Olaus Magnus' map. Number 14 lacks the usual later graduation for latitude and has but three figures around the standard at the top. On No. 12 the upper part of the continent of North America is only faintly defined but it is still of Verrazano type.

XLI Rome, Propaganda Fide (Har. 32) (Kr. 33)

The atlas comprises a coat-of-arms of a bishop and fourteen maps 51×36:

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediter-

ranean; 7, East Mediterranean; 8, Black Sea; 9, Italy; 10, Grecian Archipelago; 11, Map of the world on a plane projection; 12, Oval world-map; 13, Palestine; 14, Scandinavia.

First described by the Visconde de Santarem in *Notice sur plusieurs monuments géographiques inédits* (1847), more fully by Thomassy in *Les papes géographes* (1853). A short description was given by Bellio in his *Notizia* of 1892, in which he states that there is a note in it signed "H. H. [Henry Harrisse], April 30, 1885," that it was the largest Agnese atlas known. I have not been able to obtain any further information about it.

"E" 1545+

Like "D" except that the three distinct islands for Holland, Brabant, and Utrecht have been merged into one with one or two waterways crossing it.

XLII *Wolfenbüttel, Herzog August Bibliothek, Cod. 4, I Aug. 4° (Har. 26) (Kr. 31) (R. 9)

The atlas comprises a vacant shield somewhat similar to those in XXXIX and XL, a declination table and the armillary sphere on single pages, a completed double-page zodiac with a small Atlantic hemisphere in the center, and ten maps 29.8×19.5:

Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with one set of names in Italian and another in High Dutch; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea with the Tamerlane legend; 10, Oval world-map with the west coast of South America lightly painted in.

At the end are two pages of cosmographical data, perhaps the first seen in his atlases, and in the back wooden cover a hole for a compass which now however is missing. The original binding of red morocco with gold tooling in a geometrical design on both covers is dissimilar to any I have seen in the way the four ornaments are placed. There were originally four clasps, two on the side and one each on the top and bottom, but at present only the lower-side one and that at the top are left.

Two interesting legends occur in this atlas, one on No. 4 in Transylvania, "Hic jacet corpus s. ladislao," and the other on No. 9, "Hic bajazetes a tamburlane captus et victus est." As the latter event occurred in 1402 it obviously has no connection with the date of the

atlas. The shield at the beginning differs from that in XL; the lower roll is reversed and the upper ones occupy a somewhat different position.

XLIII *New York, Pierpont Morgan Library, M406 (Har. 21) (Kr. 47)

The atlas comprises two pages with a modern coat-of-arms and some notes in French, a blank page and a coat-of-arms with a serpent inclosed in one of Agnese's later characteristic shields, a declination table and armillary sphere on single pages, a completed double-page zodiac with a small Atlantic hemisphere in the center, and ten maps 29.5×19.75:

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with Italian names; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea with the Tamerlane legend; 10, Oval world-map.

In the back binding is a small compass surrounded by a windrose.

The atlas is almost identical with XLII and even has the two legends added in that atlas. It was formerly in the possession of the Comte de Malartic, of Dijon, and was described by Paul Gaffarel in *Le portulan de Malartic* (Dijon [1889]). He thought the atlas was made about 1534, an opinion based on very unsound reasoning. He reproduced Nos. 1, 2, and 6.

"F" 1550 (?)

About this period Agnese began to introduce some decorations on his maps in the form of ships, and on Map 1 developed the Moluccas very considerably, many of the islands and the Chinese coast now having names. On the oval map the Verrazano isthmus becomes much wider and the configuration of the coasts on both sides tends to become vague. With XLV begins a correction in the graduation for longitude on Maps 1 and 3. The meridian marking the second 90° of west longitude—that is, 180°—coincides with the second 90° of east longitude. What is more important is that Gilolo and the Moluccas have been moved to the west, so that the one hundred and eightieth meridian now runs about 12° east of Gilolo instead of some 2° west of it as on all Agnese's earlier maps. The Chinese coast has also been moved to the west but not so much. Otherwise like "E."

XLIV *San Marino, Huntington Library, HM 10

The atlas comprises two blank leaves, a blank page and opposite a later characteristic Agnese shield containing a coat-of-arms with an inscription underneath ("Ex Dono Regis Cosme Valbelleo Balmelio"), two blank pages, a declination table and an armillary sphere on single pages, a completed double-page zodiac with a small Atlantic hemisphere in the center with an antarctic continent, and sixteen maps 42.3×29.3:

> Nos. 1, Pacific Ocean, Vermeio type with two ships; 2, Atlantic Ocean with three ships; 3, Indian Ocean with eight windheads with Italian names and two ships; 4, Northwest and Central Europe; 5, Spain and Northwest Africa, one ship; 6, West Mediterranean; 7, East Mediterranean; 8, Black Sea with the Tamerlane legend; 9, Italy and the Dalmatian coast; 10, Grecian Archipelago; 11, Palestine with two ships; 12, Oval world-map; 13, Spain; 14, Russia and Tartary; 15, Scandinavia; 16, Eastern hemisphere of Ptolemaic pattern with names—only reaching the source of the Nile.

The atlas has been rebound and contains on the front cover the same coat-of-arms as displayed in the frontispiece. Valbelle was the name of a Provence family that had a lion in the center of their coat-of-arms like this one. The atlas is not so artistic as Agnese's smaller atlases. There is nothing to show where the Huntington Library obtained it.

Numbers 9, 11, 13, and 14 are all land maps but in portolan style. Number 3 has new decorations, a Prete Iani on the throne of Ethiopia with an Episcopal miter on his head and a staff with a gilded cross in his hand done in green and gold; there is also a Rex Canbaie seated on a throne in India. On No. 4 there are kings in Navarre, Languedoc, etc., and the *imperator* is seated in the middle of the map. A young man or boy sits on the throne of England. On No. 5, which is graduated for latitude from 26° to 47°, only a few rivers are shown in Africa. On No. 7 a few towns in Palestine and Syria are named, and Mount Sinai is shown with S. Catarina on top of it. There is something curious about the return route from the Moluccas on No. 12; a branch of this turns south off the African coast in about 15° N. latitude and extends to Brazil.

XLV †Montpellier, Bibliothèque de'Université (Ecole de Médecine) H. 70 (Har. 23) (Kr. 39)

The atlas comprises two pages with modern notes, a shield inclosing a coat-of-arms of the Clugny family, a declination table and an armil-

lary sphere on single pages, a completed double-page zodiac with a small Atlantic hemisphere in the center, and seventeen maps 40.4×28.8:

> Nos. 1, Pacific Ocean, Vermeio type with one ship; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with Italian names and two ships; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, East Mediterranean; 8, Black Sea with the Tamerlane legend; 9, Grecian Archipelago; 10, Spain; 11, Italy and the Dalmatian coast; 12, Palestine; 13, Russia and Tartary with the Tamerlane legend near the bottom; 14, Scandinavia; 15, Oval world-map; 16, Eastern Hemisphere without names; 17, Upper basin of the Po.

Between Nos. 16 and 17 there is a table of measurements of the earth and distances to the sun and planets. In the back cover there is a compass with the needle, which has lost its polarity, surrounded by a thirty-two-point windrose with the principal winds with Italian names. The binding is reddish-brown morocco, tooled on each cover with double rectangles and a lozenge-shaped design in the center.

Numbers 10–13 are land maps in portolan style while No. 17 lacks the direction lines. Malavialle seemed to think that this has been added subsequently, but it is found in later atlases. On Nos. 2 and 15 the prime meridian is labeled "tholomei." With the exception of the added map and the change in graduation, noticeable on No. 1, the atlas is almost identical with XLIV, judging from Malavialle's description. The names on the Chinese coast found on Nos. 1 and 3 are just reversed from the way they are shown in XLIV. Number 3 is a little more decorated; a "Sophi Presedis" and a "Rex Malache" at the head of the Malay Peninsula have been added. Number 5 is not graduated for latitude according to Malavialle.

Described from the article by L. Malavialle in the *Bulletin de la Société Languedocienne de Géographie* (Montpellier, 1907), Tomes XXX and XXXI. He says that it originally belonged to M. de Clugny, a *conseillier* of Dijon expatriated in 1791. In the *Bulletin* of March, 1879, No. 3 was reproduced.

XLVI †Florence, Biblioteca Nazionale, Cl. XIII, P. Cod. 5 (Har. 33) (Kr. 32)

The atlas comprises a frontispiece with the arms of the Sommaia family, a declination table and an armillary sphere on single pages, a double-page zodiac, and ten maps 29.7×19.5:

Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with Italian names; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

At the end there is said to be a sheet of arms and a compass in the back cover.

Number 5 is graduated for latitude from about 26° to 47°.

Described from photos of Nos. 1–3 and 10, the others having been verified by Mr. Otto Lange. Uzielli mistakenly states that there are eleven maps. The atlas was also described by Professor G. Caraci in *Atti dell' VIII Congr. Geogr. Ital.*, III, 98, and by Malavialle, *ibid.*, XXXI, 32.

"G" 1550 (?)

Like "F" except that Taprobana on the oval world-map is in its proper place as Sumatra, and there are some other differences indicating a period of transition. All the Maps 1–3 have the new graduation. On the oval world-map in XLVII and XLIX only the Magellan route is shown.

XLVII *Berlin, Preussische Staats-Bibliothek, MS Hamilton 529 (Kr. 53 or 54) (R. 10)

The atlas comprises a blank page, an armillary sphere, a completed double-page zodiac with an Atlantic hemisphere in the center, and sixteen maps 50×35:

Nos. 1, Pacific Ocean, Vermeio type, one ship; 2, Atlantic Ocean, one ship; 3, Indian Ocean with eight windheads with the names in Italian and one ship; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, East Mediterranean; 8, Black Sea; 9, Grecian Archipelago; 10, Spain; 11, Italy and the Dalmatian coast; 12, Russia and Tartary with the Tamerlane legend; 13, Scandinavia; 14, Palestine; 15, Oval world-map; 16, Upper basin of the Po.

At the end are two pages of cosmographical data, and in the back cover there is a compass surrounded by a windrose. The binding is brown leather with designs similar to those on XLIX.

The maps are almost identical with those in XLV; even No. 5 is not graduated. On No. 3 there is a slight difference in the location of the sovereigns, and on No. 4 the figure on the throne of England seems to be that of a man. Number 10 has lost its portolan aspect and is deco-

rated with three ships, otherwise it is like No. 10 in XLV. It has been argued that the atlas was made after 1587 because Sigismund, a king on the throne of Poland, is said to have begun to rule in that year. This, however, was Sigismund III; Sigismund I sat on the throne until 1548 and probably he was the one depicted on the map.

XLVIII †Venice, Museo Civico Correr, Port. 22 (Har. 17)

The atlas comprises a table of declinations and to the right the coat-of-arms of the Tron family, a blank page and one with an armillary sphere, a double-page zodiac, and fourteen maps 50×35:

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with Italian names; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, East Mediterranean; 8, Black Sea; 9, Italy and the Dalmatian coast; 10, Grecian Archipelago; 11, Palestine; 12, Russia and Tartary; 13, Scandinavia; 14, Oval world-map.

In the back cover is a compass, and the binding is said to be original.

On No. 1 the Indian Archipelago is as devoid of names as Agnese's early maps but it extends farther east, even beyond Bengal. Number 3 is not decorated except with windheads and some vignettes of towns. On No. 4 Scotland and England must be united as they thus appear on No. 2, but Scotland is of the old square form. On No. 14 the Verrazano isthmus is almost as narrow as on the early maps.

Described from photos of Maps 1–3 and 14 and information regarding the others furnished by Mr. Otto Lange, of Florence. From this it appears that the maps are substantially the same as the corresponding maps in XLVII and XLIX with the exceptions noted. As it bears the notation that it came from a member of the Giustiniani family we may take it for granted that it is the one described by Uzielli (No. 278), which then belonged to Giovanni Battista Giustiniani, of Venice. Professor Giuseppe Caraci is of the opinion that this is not an Agnese production. I do not know what reasons he has for reaching such a conclusion but if they are valid we shall have to eliminate from our list the other atlases in this and the preceding group and probably those in the following one as well. As far as I can make out from the few photographs that I have of the maps in this atlas there is very little about them to arouse any suspicion. On the contrary, they contain numerous features common to other atlases and which we even find repeated on subsequent atlases of Agnese which he signed and

dated. Possibly there may be something on the maps I have not seen to furnish some warrant for Professor Caraci's opinion.

XLIX *Munich, Universitäts-Bibliothek, Cod. MS 337*a* (R. 14)

The atlas comprises a blank page, one with a later characteristic Agnese shield with a modern inscription in the center, a declination table and armillary sphere on single pages, a completed double-page zodiac with a small Atlantic hemisphere in the center, and nineteen maps about 47×30:

> Nos. 1, Pacific Ocean, Vermeio type, two ships; 2, Atlantic Ocean, one ship; 3, Indian Ocean, four ships; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, East Mediterranean; 8, Black Sea with the Tamerlane legend; 9, Italy and the Adriatic; 10, Grecian Archipelago; 11, Palestine; 12, Russia and Tartary; 13, Oval world-map; 14, Spain; 15, Scandinavia; 16, Italy and the Dalmatian coast; 17, Cyprus; 18, Crete; 19, Sicily.

Between Nos. 18 and 19 are two pages of cosmographical data. There is a hole for a compass in the back cover of what seems to be the original binding surrounded by a windrose. Under this is a later inscription, "E Mvseo Ioannis Georgii Herwart ab Hohenbvrg, V. I. Doctoris, ex Assesore Svmmi tribvnalis Imperatorij, & ex Cancellario supremo Serenis^{mi} vtriusque Bauariae Ducis, etc." (Herwart was born in 1554 and died in 1622.)

Numbers 1–3, except for the decorations and a few more names on the Indian Archipelago, are almost identical with those in XLVIII, but on No. 1 an attempt was made with somewhat disastrous results to write out the usual abbreviation on the Peninsula of California, "la g^{a} s. c^{a}" which stands for "Laguna de Santa Catalina." Further, on No. 1 the usual inscription about the Strait of Magellan was changed to read "Strictvm de Magellano." On No. 3 there are no windheads or any figures, but the vignettes of towns in India common to preceding maps in this group are shown. On No. 4 England and Scotland are united but Scotland is of the old square form. Number 5 is graduated for latitude from about 26° to 45°. Number 7 is like that in XLIV, XLV, and XLVII. Number 12 is graduated for latitude on the left-hand margin from 44° to 72° and has a title on the face of it, "Moschoviae tabula." Number 14 differs slightly from No. 10 in XLVII but there is nothing to indicate that it was copied from a new map. The shape of North America on No. 13 cannot be made out from the photograph but there is a strait in the northern part like

that in the following group. Number 15 is the only map not in portolan style except the oval world-map.

Numbers 1 and 2 were reproduced by Kunstmann in his atlas as VI and VII.

Type 3. 1552 (?)–64

THE principal characteristic of this group is a new map of Scotland, elsewhere described. Yucatan appears as a peninsula with a narrow connection in "A" and a wider one in the later group. On the oval map the Verrazano shape of North America has disappeared, or rather the Verrazano isthmus. Taprobana appears in its proper place as Sumatra and the island of Ceylon has been reduced to its real size. The new position assigned to Gilolo on No. 1 in XLV has been maintained to the end.

"A" 1552 (?)

With a long strait through North America on the oval map in about 52° of latitude. A new coast line in Holland, Denmark, and the Baltic region also appears. No figures on any map except that of Scandinavia. If it were not for the fact that two of these atlases contain a world-map with the "viazo di peru," I should be inclined to think that they were issued after 1555. All the maps of the Black Sea have eight windheads with Italian names.

L *Espelunda (Sweden), Count Alex Mörner

The atlas comprises two pages to be described hereafter, two more with an inscription on the one on the left that the book was given to Sebastian, the Archbishop of Mainz, by Christopher Haller, of Hallerstein, and on that on the right, one of Agnese's later characteristic shields inclosing the coat-of-arms of the archbishop quartered with those of some unknown person, a declination table and an armillary sphere on single pages, a completed double-page zodiac with a small Atlantic hemisphere in the center, and thirteen maps 29.5×19.5:

> Nos. 1, Pacific Ocean, Vermeglio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with the names in High Dutch; 4, Northwest and Central Europe: 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Grecian Archipelago; 11, Scandinavia; 12, Oval world-map; 13, Eastern Hemisphere with names.

Pasted on the inside of the back cover is a windrose which surrounds a hole evidently for a compass. The atlas is bound in red leather with gold-impressed ornaments.

A peculiarity of No. 4 is the naming of the British Islands thus: England, Scotscotlād, and between them Gallowai; a number of the towns have English names. On the oval map both the Magellan route and that to Peru are shown. Map 13 only shows Africa as far south as the Mountains of the Moon.

The atlas has an interesting history. On the first page is an inscription signed by Christina in 1637 in which as queen of Sweden she states that the book has been given to her by her preceptor. It is for this reason that the atlas has achieved some notoriety as "Queen Christina's atlas." In 1637 Christina was eleven years of age, and presumably her tutor gave her the atlas to aid her in the study of geography. On the second page is another frame with a coat-of-arms very much like the one described above. There are some differences, however, which might lead one to believe that it is of later date. The archbishop was Sebastian Heusenstain who ruled from 1545 to 1555. The atlas certainly falls within those years.

LI †London, Henry Yates Thompson (Har. 30) (Kr. 46)

The atlas comprises a coat-of-arms, a declination table and an armillary sphere on single pages, a completed double-page zodiac with an Atlantic hemisphere in the center, and thirteen maps 30×19:

> Nos. 1, Pacific Ocean, Vermeglio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with names in High Dutch; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Grecian Archipelago; 11, Scandinavia; 12, Oval world-map; 13, Eastern Hemisphere, unfinished.

At the end are the usual two pages of cosmographical data of the period and a hole for a compass in the back binding, which is of olive morocco with four clasps very similar to that on XLIX and LIV.

Number 1 extends farther east than usual, showing the Terra de Bacalaos. On No. 2 the prime meridian is marked "Linea meridiana ptolomei." I have not seen No. 4, but the new map of Scotland appears on No. 2 on a small scale.

The atlas was bought in Rome, March 31, 1826, by Joseph Brown Yates for five louis. At the sale of Thompson's books in 1918 it was

bought in by the owner for twelve hundred pounds, but its present whereabouts is unknown to me.

Described from a *Descriptive catalogue of MSS in the collection of H. Y. Thompson*, No. 96 of the second series. In his *Illustrations of 100 manuscripts* the zodiac, and maps 1–3, 8, 9, 11, and 12 were reproduced. From these it is plain that the atlas is almost identical with that of Count Mörner.

LII *New York, New York Public Library

The atlas comprises a blank page, one with an elaborate coat-of-arms of the Hohenlohe-Neuenstein family in a later Agnese characteristic frame, a declination table and an armillary sphere on single pages, a completed double-page zodiac with an Atlantic hemisphere in the center, and fifteen maps about 29.5×19.2:

> Nos. 1, Pacific Ocean, Vermeglio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with two sets of names, one in Italian and the other in High Dutch; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Grecian Archipelago; 11, Scandinavia; 12, Palestine; 13, Eastern Hemisphere with names; 14, Oval world-map; 15, Cyprus.

At the end are two pages of cosmographical data, and in the back cover is pasted a windrose with the names in Italian surrounding a compass. It is bound in reddish-brown morocco tooled with lines across the corners. The measurements were kindly taken by Mr. Victor H. Paltsits of the Library staff.

On No. 4 on the British Islands we find the names Scotland, Galloway, England, Cornewal, and Wales with numerous English names for the towns. On No. 11 the figures on the thrones of Scotland and England have been changed; that on England seems to be a young man. On No. 14 only the Magellan route around the world is shown. With these exceptions and the inclusion of two extra maps the atlas is almost identical with that of Count Mörner.

The history of the atlas is unknown, but it was acquired in 1920 from Joseph Baer and Company of Frankfort.

LIII *Königsberg, Universitäts-Bibliothek, MS 2445 (R. 15)

The atlas comprises a blank page, an armillary sphere, a completed double-page zodiac, and twelve maps measuring 30×19.5:

Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with two sets of names, one in Italian and the other in High Dutch; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Scandinavia with one ship; 11, Oval world-map.

At the end are two pages of cosmographical data and in the back cover there is a compass surrounded by a thirty-two-point windrose. It has a modern velvet binding.

The figures on No. 10 are the old ones; those on Scotland and England are designated as Rex Scotland and Rex England. No. 11 has only the Magellan route around the world.

Described from a set of photostats kindly loaned me by the Library of Congress and from information courteously supplied by the director of the library.

"B" 1553–64

On the oval map the strait in the northern part of North America has been eliminated, leaving the shape of the continent however very similar to that shown in "A." Only the route of Magellan around the world appears on it. Yucatan, except on Nos. 1 and 2 in LV, is a peninsula. On No. 4 we find the old Baltic in LIV–LVI. A great increase in the number of maps in the atlases is noticeable, many more maps are graduated for latitude, and some of the land maps have been drawn on a globular or trapezoidal projection. All the maps of the Black Sea have eight windheads with names in Italian, unless otherwise noted.

LIV *San Marino, Huntington Library, Huntington HM 27

On No. 4 in the upper right-hand corner upside down is the inscription "Baptista agnese fecit uenetij's anno dñi 1553 die VIIJ Julije." The atlas comprises a circular calendar and opposite one of Agnese's later characteristic shields with the chevron painted out, a declination table and an armillary sphere on single pages, a completed double-page zodiac with a small Atlantic hemisphere in the center with the string still intact, and ten maps 46×29:

Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, East Mediterranean; 8, Black Sea without windheads; 9, Grecian Archipelago; 10, Oval world-map.

The back of No. 10 has been ruled and divided into four sections, evidently intended for tables as at the bottom of each section are the words, "annvs primvs [segundvs]." In the back cover is a hole for a compass surrounded by a windrose painted on a half-sheet of vellum. The volume retains the original binding tooled with a design somewhat different from those on earlier atlases, and has four clasps.

This atlas is in almost pure portolan style, only a few vignettes of towns appearing on Nos. 4 and 7; there is even no Nile in Africa on No. 3. The Tamerlane legend appears on No. 8. Number 5 is graduated for latitude from about 27° to 45°. The new map of Scotland is shown but the Continental coast line opposite is of the old type.

It came from the Phillipps Collection where it was numbered 24051. On the back of the front cover is a note that it formed part of Lot 845 of the Meerman sale.

LV *Venice, Museo Civico Correr, Port. No. 21 [No. 31] (Har. 14) (Kr. 20)

On No. 4 is the inscription "baptista agnese fecit uenetijs amno dñi 1553 die primo septembr[is]."

The atlas comprises two pages of cosmographical data, usually found at the end, but with additional material, a blank page and one with Agnese's later characteristic shield, vacant, a declination table and an armillary sphere on single pages, a completed double-page zodiac with a small Atlantic hemisphere in the center, and twenty-nine maps 48×29:

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean, one ship; 3, Indian Ocean, three ships; 4, Northwest and Central Europe; 5, Spain and Northwest Africa, one ship; 6, West Mediterranean; 7, East Mediterranean; 8, Black Sea with eight windheads, names in Italian and High Dutch and a legend about the Ottoman sultans; 9, Italy and the Dalmatian coast; 10, Grecian Archipelago; 11, Scandinavia, one ship; 12, Palestine, with a title, "Tabvla Terrae Sanctae," one ship; 13, Russia and Tartary, with a title, "Moscoviae Tabvlae," and the Tamerlane legend; 14, Spain; 15, Upper basin of the Po; 16, Africa, graduated for latitude from the Equator to about 35° S. and 40° N.; 17, Sicily; 18, Crete or Candia; 19, Cyprus; 20, Morea; 21, British Islands, graduated for latitude from about 49° to 62°; 22, Tuscany, decorated with six galleys; 23, North Egypt and Syria graduated for latitude, from about 27°45′ to 33°; 24, Euboea or Negropont and the adjoining country; 25, Lesbos or Mitylene; 26, Chiopolis or Sio; 27, Rhodes; 28, Malta; 29, Oval world-map.

In the back cover there is a compass, which still retains some sensitiveness, surrounded by a windrose. The front cover is ornamented with a design of an armillary ring and the back cover with that of a sphere.

There are many features of great interest in this atlas, many of which were copied in later ones. Numbers 11, 14, 15, 16, 21, 22, and 23 are purely land maps, all the others being in portolan style except the world-map. Numbers 9, 12, 13, and 20 and all the maps of the islands are almost exclusively land maps in spite of their portolan style. Numbers 1–3 are graduated for both latitude and longitude by 5° up to 90°. Yucatan on Nos. 1 and 2 is an island of square shape, separated by heavily marked shoals from the mainland, although on No. 29 it is intended to be a peninsula. On No. 2 there are two figures of men off the coast of Patagonia. On No. 3 both Java Mayor and Borneo (Java Minor) are shown as complete islands, and the map while covering only the Moluccas to the east extends to the west a little beyond the Nile. Here the name Prete Iani appears but no figure, while a king without a name sits on the throne of Persia. The "Rex de Canbaia" sits in his accustomed place and another at the head of the Malay Peninsula but he is now named "Rex de Narsinga." Number 5 is graduated for latitude as usual. The figure on the throne of England on No. 11 appears to be a woman. Number 16 is so far as known the first appearance of a separate map of Africa in an Agnese atlas. Numbers 17, 18, and 19 are practically identical with Nos. 19, 18, and 17 in XLIX, representing simply the islands. Number 28 also simply represents only Malta, but to Nos. 24–27 a large slice of the mainland adjoining is added—in fact, there is more mainland than island. Number 21 is a copy of the *Brittaniae insulae* published in Rome in 1546 and attributed to George Lily. Number 23 is very similar to the map of Egypt published by Lafreri.

Mr. M. C. Andrews in his *Scotland in the portolan charts* asserts that the appearance of Agnese's new map of Scotland was in an atlas in the Museo Civico Correr (Port. 21), dated 1553. He presumably referred to this, but it is just possible that there may be another dated 1553 in that library. There is some confusion about the proper number of this atlas. According to a photograph of the cover made for the Library of Congress in 1929, it was formerly numbered "Cart. Nautiche 30." The "30" is crossed out and "21" written in place of it. I received some photographs of four of the maps in March, 1930, and

the photographer said the atlas was numbered 31. Number 31 was described by Bellio and his description seems to fit that of this atlas, although he stated that it carried the arms of the Giustiniani family. These, however, are not apparent on the photographs; perhaps Bellio confused it with Port. 22 in the same library which had belonged to that family. This atlas is undoubtedly the one described by Cornelio Desimoni in his *Elenco di carte*, page 59, and which then belonged to F. Donà.

LVI *Venice, Marciana, Cl. IV, Cod. 6 (Har. 16) (Kr. 22)

On Map 5 is the inscription "No. Baptista palnese fecit uenetijs anno domini 1554 die 20 octobris tab."

The atlas comprises a declination table and an armillary sphere on single pages, two pages of cosmographical data like those in LV, a completed double-page zodiac with the ordinary Atlantic hemisphere in the center, and thirty-one maps measuring in the reproductions 33×23 but in all probability larger, as Fischer states that a sheet measures 59×44:

> Nos. 1, Pacific Ocean, Vermeglio type, two ships; 2, Atlantic Ocean, one ship; 3, Indian Ocean, eight windheads with two sets of names in Italian and High Dutch and ornamented with three ships; 4, Northwest and Central Europe, with eight windheads like those of No. 3 and one ship; 5, Spain and Northwest Africa graduated from about 27½° to 45½°, one ship; 6, West Mediterranean; 7, East Mediterranean; 8, Black Sea; 9, Italy and the Dalmatian coast; 10, Grecian Archipelago; 11, Sicily; 12, Morea; 13, Creta or Candia; 14, Cyprus; 15, Lesbos or Mitylene; 16, Euboea or Negropont; 17; Sio; 18, Rhodes; 19, Malta; 20, Russia and Tartary with the Tamerlane legend and the statement about the Ottoman sultans, graduated on the left-hand margin from about 42° to 74°; 21, British Islands, decorated with one ship and graduated for latitude on both sides from 49° to about 61½° and also for longitude on top and bottom; 22, Spain, graduated for latitude on both sides; 23, Upper basin of the Po; 24, Scandinavia; 25, Palestine, one ship; 26, North Egypt and Syria, graduated on one side for latitude and for longitude on top and bottom; 27, Africa, graduated on both sides from about 28° to 48½° and for longitude top and bottom; 28, Tuscany labeled "Toscana tabvla" and decorated with one ship and six galleys; 29, Eastern Hemisphere without names; 30, Oval world-map; 31, France with four windheads and graduated from about 41° to 52½° on both sides and for longitude on top and bottom.

The inscription on No. 5 has been altered, the *g* in Agnese having been erased and an *l* substituted while *p* has been put in front, making the word read "palnese" instead of "agnese."

Numbers 1–3 are graduated for longitude up to 180° each way from the prime meridian, that of the Canaries—in other words, we have the modern system of reckoning longitude. Furthermore, Nos. 21, 26, and 31 are also graduated for longitude at both top and bottom while No. 27 is also graduated for longitude on the Equator near the center. Number 3 does not extend so far south as No. 3 in LV or so far west (Prete Iani being missing), but farther east. Two Javas are shown with Borneo (unnamed), which is entirely different from that in LV. On No. 1, east of Gilolo, appear some vignettes representing China Metropolis, Sarata, and Catigara, reminiscences of the early Ptolemy maps. On No. 4 there is a "Regina" on the throne of England and Philip appears in Spain as the king of Spain and England. On No. 24 there is also a "Regina" on the throne of England. Number 29 is of the earliest Ptolemaic type, although showing the whole of Africa. With these exceptions the maps are almost the same as those in LV except for the additional ones and the greater amount of decoration employed. Numbers 12–18 each has a ship or a galley painted on it and No. 19, two galleys. Corruptions in the nomenclature are numerous.

The atlas is the most complete made by Agnese still existing, and for the period is a very creditable performance indeed. The added maps in this and in LV constitute a distinct departure from the work which he had turned out up to 1553, with the notable exception of the map of Italy and the Dalmatian coast.

Reproduced in *Fac-simile delle carte nautiche di Battista Agnese dell'anno 1554, illustrate da Teobaldo Fischer* (Venezia: Ferd. Ongania, 1881). Number 12 was reproduced by Sathas in his *Monumenta Ellenicae*, and No. 20 in *Die ältesten Karten von Russland* (Hamburg, 1884), by H. Michow.

LVII †Westheim bei Augsburg, Baron von Humann-Hainhofen (Har. 18) (Kr. 23)

On No. 4 is the inscription "Baptista agnese fecit uenetijs amno dñj 1555 die 24 marcis."

The atlas comprises a shield which from the Baron's description must be of Agnese's later characteristic type, apparently without the chevron, a table of declinations and an armillary sphere on single

pages, a completed double-page zodiac with a small Atlantic hemisphere in the center, and twenty-five maps 27×19:

> Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean with seven windheads, that at the north being omitted, with two sets of names, one in High Dutch and the other in Italian; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Grecian Archipelago; 11, Sicily; 12, Malta; 13, Crete; 14, Euboea or Negropont; 15, Lesbos; 16, Chios; 17, Rhodes; 18, Cyprus; 19, Russia and Tartary; 20, Palestine; 21, Scandinavia; 22, North Egypt with Syria; 23, Africa; 24, Eastern Hemisphere; 25, Oval world-map.

At the end are three pages of cosmographical data similar to those in LV and LVI, and in the back binding is a small compass. The volume is bound in red morocco with four clasps.

Numbers 1–3 are graduated up to 180° of longitude east and west and Number 3 for latitude on the left-hand margin. Both Javas are shown on No. 3 but no monarchs. On No. 4 there is a woman on the throne of England and Philip on the throne of Spain. The new Baltic is shown like that in the maps in "A," also the legend about "s. ladislaus." On No. 21 there is also a "Regina" on the throne of England and Sigismundus on that of Poland. The maps otherwise, so far as known, are similar to those in LV.

This must be the atlas which formerly belonged to Prince Alexandre Labanoff and disappeared after the sale of his books in Paris in 1823. No description of it is given in the *Catalogue*, but it was said to be dated 1555 and this is the only 1555 atlas known.

Described from photos of the zodiac and of Maps 2, 3, 4, and 21 and from information kindly supplied by the owner.

LVIII †London, Quaritch, Ltd. (Har. 19) (Kr. 24)

On No. 4 is the inscription "Baptista agnese fecit uenenetijs amno dñi 1559 die 8 augusti."

The atlas comprises only a shield in yellow and blue, no doubt of Agnese's later characteristic type, from which the coat-of-arms has been erased and replaced by the word "Cosmo-Grra-Phia" in red, and twenty-three maps 32.5×20.5:

> Nos. 1, Black Sea with eight windheads with two sets of names, one in Italian and the other in High Dutch; 2, Atlantic Ocean, one ship; 3, Indian Ocean with eight windheads with the names also in Italian and High Dutch, three ships; 4, Northwest and Central Europe graduated

from 40° to 64°; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, East Mediterranean; 8, Corsica; 9, Malta; 10, Sicily; 11, Crete or Candia; 12, Euboea or Negropont; 13, Lesbos or Mitylene; 14, Scio; 15, Rhodes; 16, Cyprus; 17, Scandinavia; 18, Russia and Tartary; 19, Palestine; 20, Africa; 21, North Egypt and Syria; 22, Eastern Hemisphere without names but graduated for latitude and longitude; 23, Oval world-map.

At the end are the two pages of usual cosmographical data. The atlas has been rebound, and at that time the map of the Black Sea which should be No. 8 was put in place of the missing map of the Pacific, No. 1.

Numbers 2–3 are graduated for longitude up to only 90°. Prete Iani is missing on No. 3, but the other monarchs shown on the same map in LV duly appear, including Sophi. Java Minor (Borneo) is reduced to almost a dot. On No. 4 the new Baltic appears and the figure on the throne of England is a woman; Philip is shown on that of Spain. On No. 17 there is a "Regina" on the throne of England. According to the descriptions furnished, No. 20, although generally like the corresponding maps in previous atlases, extends farther east, Calicut and Goa appearing on it, while the others seem to be much the same. The maps all have titles at the top, which are not given because I am not convinced that they were placed there by Agnese.

Described from information and photographs of Nos. 2, 3, 4, 17, and 23 most courteously furnished by Quaritch, Ltd. It was formerly in the possession of Santiago Perez Junquera, a bookseller and publisher of Madrid. It passed from him to Karl W. Hiersemann in Leipzig and from him to Quaritch.

LIX †Naples, Biblioteca Nazionale, D VIII, No. 7 (Kr. 52)

The atlas comprises a table of declinations and an armillary sphere on single pages, a completed double-page zodiac with an Atlantic hemisphere in the center, and twenty-six maps 39×26.4:

Nos. 1, Pacific Ocean, Vermeglio type; 2, Atlantic Ocean; 3, Indian Ocean with eight windheads with Italian names; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Grecian Archipelago; 11, Scandinavia; 12, Russia and Tartary; 13, Corsica; 14, Sicily; 15, Malta; 16, Euboea or Negropont; 17, Lesbos or Mitylene; 18, Scio; 19, Crete or Candia; 20, Rhodes; 21, Cyprus; 22, Palestine; 23, Africa; 24, North Egypt and Syria; 25, Hemisphere, incomplete; 26, Oval world-map.

Bellio states that on one of three blank leaves are some rough sketches, one of which he thinks was intended to be a *ballestriglia*.

Numbers 1–3 are graduated east up to 180° with many figures missing, and west up to 90°, the second 90° being also missing. On both Nos. 1 and 3 only the north coast of Java is shown, but it extends east to a point south of Timor. No figures of monarchs appear on No. 3. On Nos. 4 and 11 there is a woman on the throne of England. No description of No. 25 is available, but in all probability it is that of the Eastern Hemisphere. Bellio remarks that the atlas is very similar to LVI but not so well executed. The handwriting much resembles that on LVIII and LX. As I have not seen No. 4 it is not possible to state definitely that it shows the new Baltic, but I conclude that it does from the fact that what is shown of it on No. 2 is exactly like what appears on the same map in LVII, and in that atlas No. 4 does contain the new delineation. The corruptions in place-names are somewhat too numerous, even more so than in LVI.

Described from photos of the zodiac and Maps 1–3 and 26, the list in Uzielli (No. 266), and some notes by Bellio in his *Notizia*.

LX †Florence, Laurenziana, Doni 3

The atlas comprises a table of declinations and an armillary sphere on single pages, a double-page zodiac, and twenty-six maps 31×21 (world-map slightly smaller):

> Nos. 1, Pacific Ocean, Vermeio type, two ships; 2, Atlantic Ocean, one ship; 3, Indian Ocean, one ship and eight windheads with the names like those on No. 3 in LVIII; 4, Northwest and Central Europe, graduated from 43° to 65°; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Grecian Archipelago; 11, Corsica; 12, Sicily; 13, Malta; 14, Morea; 15, Lesbos or Mitylene; 16, Scio; 17, Crete; 18, Rhodes; 19, Cyprus; 20, Scandinavia; 21, Russia and Tartary; 22, Palestine; 23, North Egypt and Syria; 24, Africa; 25, Oval map of the Old World (no doubt a hemisphere only); 26, Oval world-map.

Numbers 1–3 are graduated for longitude up to 90° (repeated) both east and west but this is very defective, many of the figures being missing. Only one Java is shown, and the Indian Archipelago resembles that in Agnese's early maps; there are no monarchs on No. 3. On No. 2 the prime meridian is labeled "ptholomei," and instead of "Strictvm de Magellano" we have "El Stretto de Maglano." On No. 4 a "Regina" sits on the throne of England (also on No. 20) and

Philip on that of Spain; the Baltic is of the new type. Number 25 is doubtless the Eastern Hemisphere. The atlas is almost identical with LIX, so far as can be ascertained except that the map of Morea replaces that of Euboea.

Described from photos of Maps 1–4, 20, and 26 and information kindly supplied by Mr. Otto Lange of Florence.

LXI *London, British Museum, Add. MSS 25442 (Har. 20) (Kr. 26)

On Map 2 in the upper left-hand corner upside down is the inscription "Baptista agnese fecit uenetijs amno dñi 1564 die 25 mai."

The atlas comprises a declination table and a diagram on single pages, a completed double-page zodiac with an Atlantic hemisphere in the center, and eight maps 32.5×20.7:

> Nos. 1, Oval world-map; 2, Northwest and Central Europe; 3, Spain and Northwest Africa; 4, West Mediterranean; 5, Central Mediterranean; 6, East Mediterranean; 7, Black Sea with the Tamerlane legend and another about the Ottoman sultans; 8, Adriatic (the old special map).

This atlas is notable for not having any of Agnese's ordinary maps of America. Only the world-map shows it and that in the crudest form—so crude, in fact, that it is difficult to say whether the large island in the Mexican gulf is intended to be Yucatan or Cuba. The Gulf of California is shown. Some large crude vignettes appear on Maps 3–8, and on No. 7 some latitudes are added to three of the towns in Syria. Number 8 has the Mediterranean coast of Italy extended as far as Rome. Aside from these additions and some names of countries on No. 2 the maps are in almost pure portolan style as in the very early atlases. The calligraphy is characteristic of the last period.

There is a note at the bottom of the declination table that the atlas was purchased from Boone, November 14, 1863.

LXII *Oxford, Bodleian, Can. Ital. 142

The atlas comprises a declination table, an uncompleted single-page zodiac but with a small Atlantic hemisphere in the center, and eight maps about 30×23:

> Nos. 1, Northwest and Central Europe; 2, Spain and Northwest Africa graduated for latitude; 3, West Mediterranean; 4, East Mediterranean; 5, Black Sea without legends; 6, Adriatic; 7, Grecian Archipelago; 8, Oval world-map.

Numbers 6 and 7 are the old portolan maps with a little more coast line added. On No. 1 a heavy line like a coast line has been drawn be-

tween Scotland and England. Although this map does not show the Baltic it appears from what can be seen of it on No. 8 to be of the late type. The new map of Scotland appears on it but the Continental coast opposite is drawn like that in LIV, and it therefore seems quite likely that the atlas was made about 1553. The maps, however, are very similar to those in LXI but are better drawn, resembling the work in LVII. Although the usual Maps 1–3 are lacking, the legend of Vermeglio type appears on No. 8 in the same place that it occupies on the usual No. 1. The shape of North America on No. 8 also corresponds to that of the period of about 1553.

Not Located

LXIII Wolfegg (Württemberg), Fürstl. Kupferstich-Kabinett, X, No. 21 (R. 11)

The atlas comprises two blank leaves, an empty shield, a table of declinations and an armillary sphere on single pages, a double-page zodiac, and eleven maps about 29.5×19.5:

> Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest and Central Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map; 11, Atlantic Hemisphere.

At the end are two blank pages. The atlas is said to be bound in leather, gold-tooled.

This description is taken from the *Aelt. kart. Material* of W. Ruge. From his very inadequate description, about the only thing that can be stated about the atlas with any degree of precision, is that it is of Type 2. He gives the measurement as 23.6×17, but as he also gives the same measurement for other atlases measuring 29.5×19.5 I conclude that the latter is the proper one. Repeated communications to the librarian have failed to elicit any further information, leading to the natural inference that the volume is no longer in the library. It does not correspond, however, so far as known to any of Agnese's atlases which have been brought to America since the war, or to any of those which are now for sale in Europe.

LXIV Venice, Abbé Celotti (Har. 15) (Kr. 21)

On No. 4 is Agnese's signature and the date, July 15, 1554.

The atlas comprises an armillary sphere, a double-page zodiac, and eleven maps (no measurement given):

Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; Nos. 4–10, West Europe and the normal portolan; 11, Oval world-map with the route of Magellan around the world.

It is probable that Map 10 is that of the Grecian Archipelago or the Adriatic. It is obviously of Type 3.

This atlas was first described by P. Placido Zurla in his *Di Marco Polo* (Venice, 1818), II, 368. It was afterward described from this by Malavialle in his article. He thought that it was the one now referred to as that of Giustiniani, but this could not be possible as there is a great discrepancy in the number of maps in the two atlases. What has become of it is unknown, nor is there any atlas now known to which it corresponds.

Doubtful

LXV †Bologna, Biblioteca Universitaria, Cod. No. 997 [Ex. Bib. Benedict XIV] (Kr. 50)

The atlas comprises a coat-of-arms of the Duke of Este, Alfonso II, a table of declinations and an armillary sphere on single pages, a double-page zodiac, and eighteen maps 43.2×26.5:

Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, Indian Ocean; 4, North America from 65° E. to 135° W. and from 5° S. to 55° N.; 5, The Atlantic and part of South America and North America north of the Equator to 45° N. and extending from the prime meridian to 70° W.; 6, Northeast America from about 45° to nearly 70° of north latitude and extending as far west as about 43° of west longitude; 7, South America complete with part of Africa, extending from the prime meridian to about 72° W. and 32° E.; 8, Africa; 9, Northwest and Central Europe; 10, Spain and Northwest Africa; 11, West Mediterranean; 12, Central Mediterranean; 13, East Mediterranean; 14, Black Sea; 15, Grecian Archipelago; 16, Palestine; 17, Cyprus; 18, Oval world-map with no route.

Numbers 1–3 are graduated for longitude east and west up to 180°. Number 1 shows both Javas complete and Yucatan as a peninsula with a very narrow connection. The names on the Chinese coast are badly corrupted. Number 9 is like No. 4 in LIV but has a woman on the throne of England and a man on that of Scotland as well as other sovereigns as on the corresponding map in LVI.

Numbers 4–7 constitute a special series of maps, and the rest are much like those found in Agnese atlases of Type 3, "B." Numbers 4–8

are not only graduated for latitude on both sides but also for longitude at the top and bottom and on the Equator like Nos. 1–3, but on the same globular or trapezoidal projection that we have found on the map of Africa in LVI and LVII. The map of Africa, however, is not the same as in those two atlases although the resemblance is very marked. On No. 7 the Line of Demarcation is drawn about 26½° west of the prime meridian which is only shown on the map of Africa, but is the Ptolemaic one. There is a large legend in Peru, "Gover de Diego de Almagro," and others about Pizarro and of the company of the Belzers (? Welsers). Off the coast of Chile in about 43° S. latitude are the Y^{as} Vistas de lexos. The most striking feature of these special maps is the Cabrillo nomenclature on No. 4, taken probably from the Italian edition of 1556 of the *Historia de las Indias* of Lopez de Gómara. Indeed, the atlas appears to have been made but little later than that year and was copied in the main, except for the special maps, and even some of the features on those, from an atlas resembling the Marciana of 1554.

Described from photos of Nos. 1, 8, 9, and 18, and the reproductions of Nos. 4–7 in Kretschmer's atlas to *Die Entdeckung Amerikas*.

LXVI Chicago, Newberry Library (Ayer Collection)

The atlas comprises nothing but fifteen double-page maps 31.5×21, unbound:

> Nos. 1, Pacific Ocean, Vermeglio type; 2, Atlantic Ocean; 3, North America; 4, The Atlantic and part of South and North America; 5, Northeast America; 6, South America; 7, Africa; 8, Indian Ocean (the usual Agnese No. 3) with eight windheads; 9, Northwest and Central Europe; 10, Spain and Northwest Africa (not graduated); 11, West Mediterranean; 12, Central Mediterranean; 13, East Mediterranean; 14, Black Sea with eight windheads with names in Italian and no legend; 15, Grecian Archipelago.

The atlas lacks a world-map and is therefore undoubtedly incomplete.

Although in many respects the atlas resembles that in Bologna and contains the same special maps, there are numerous differences and many evidences of carelessness. Numbers 1, 2, and 8 are not graduated at all, and No. 9 is full of corrupted names, having none at all on the coasts of France or Spain south of the Garonne. Scotland and England are not colored except the figures of the queen on the throne of England and the king on that of Scotland, but the usual figures are

found on the Continent, including Philip, king of Spain. The Denmark coast and the Baltic are of the improved variety, later than that in the Bologna atlas.

LXVII Chicago, Newberry Library (Ayer Collection)

The atlas comprises a vacant characteristic Agnese shield of the later type, two blank pages, an uncompleted double-page zodiac, and nine maps 31×20.5:

> Nos. 1, Pacific Ocean, Vermeio type; 2, Atlantic Ocean; 3, North America; 4, The Atlantic and part of South and North America; 5, Northeast America; 6, South America; 7, Africa; 8, Indian Ocean (usual No. 3); 9, Northwest and Central Europe.

Generally speaking, Nos. 1, 2, and 8 are like those in the other Ayer atlas except that the mountains are not painted in colors. None is graduated nor in fact any map in the atlas. On No. 1 there are some Agnese names on the gulf side of the Peninsula of California, although two are unrecognizable. On No. 9 the rulers on the thrones are drawn differently from No. 9 in the other Ayer atlas and Philip and Soliman have both been erased, although their titles remain and even the outline of Philip. Of the special maps, Nos. 5, 6, and 7 are little more than mere outlines of the Continent—in fact, the atlas is obviously incomplete. That this is so is further indicated by the fact that following the maps in the volume are blank vellum leaves for seven more maps, each ruled in a rectangle in gold and inclosing the same space as that covered by the maps.

LXVIII †Turin, Biblioteca Reale (Kr. 30)

The atlas comprises the arms of Conte Francesco Martinengo of Brescia, and twenty-eight maps 31×21:

> Nos. 1, Pacific Ocean, Vermeglio type; 2, Atlantic Ocean; 3, North America; 4, The Atlantic and part of South and North America; 5, Northeast America; 6, South America; 7, Africa; 8, Indian Ocean; 9, Northwest and Central Europe; 10, Spain and Northwest Africa; 11, West Mediterranean; 12, Central Mediterranean; 13, East Mediterranean; 14, Black Sea; 15, Grecian Archipelago; 16, Sicily; 17, Crete; 18, Euboea or Negropont; 19, Lesbos; 20, Sio; 21, Rhodes; 22, Cyprus; 23, Scandinavia; 24, Russia and Tartary; 25, Palestine; 26, North Egypt and Syria; 27, *Theatrum mvndi*, a map of the world on a plane projection copied from one of Plancius' maps of 1590 or 1594; 28, *Theatrvm orbis terrarvm*, a double-hemisphere map with the Peninsula of California named, and Cabo Mendocino [misspelled].

At the end are some cosmographical data and a sphere with the climates. It is bound in red, yellow, and black leather and perhaps has a compass.

It is said that Nos. 1, 2, and 8 are like Agnese's usual Nos. 1–3, and that Nos. 3–7 are the special maps like those in other atlases in this group. There is a queen on the throne of England and a king on that of Scotland on No. 9.

First described by Heinrich Wuttke in *Zur Geschichte der Erdkunde in der letzten Hälfte des Mittelalters. Die Karten der Seefahrenden. Südeuropas, etc.*, Later it was described by Malavialle who noticed the resemblance of the special maps to those in the Bologna atlas and finally by Magnaghi who indicates that the nomenclature on America is badly corrupted. Malavialle was of the opinion that the atlas was made after 1567, the date that James VI became king of Scotland, but a king appears always on Scotland in Agnese's atlases.

Described from Malavialle's article and photos of Nos. 27 and 28. Number 23 was reproduced by Wuttke.

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BAGROW, LEO. A *Ortelii catalogus cartographorum*. 2 vols. Gotha, 1928, 1930. (Petermann's *Mitteilgn. Erg.-H.* 199, 210.)

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BERCHET, GUGLIELMO. *Portolani esistenti nelle principali biblioteche di Venezia*. 8°. Pp. 11. 1 pl. Venezia, 1866. (Not seen.) (Reprinted from *Giornale della marina*, sett. 1865.)

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Supplementary Note.—After the preparation of the article, the following description of another Agnese atlas belonging to Heinrich Rosenthal, Munich, has come to hand:

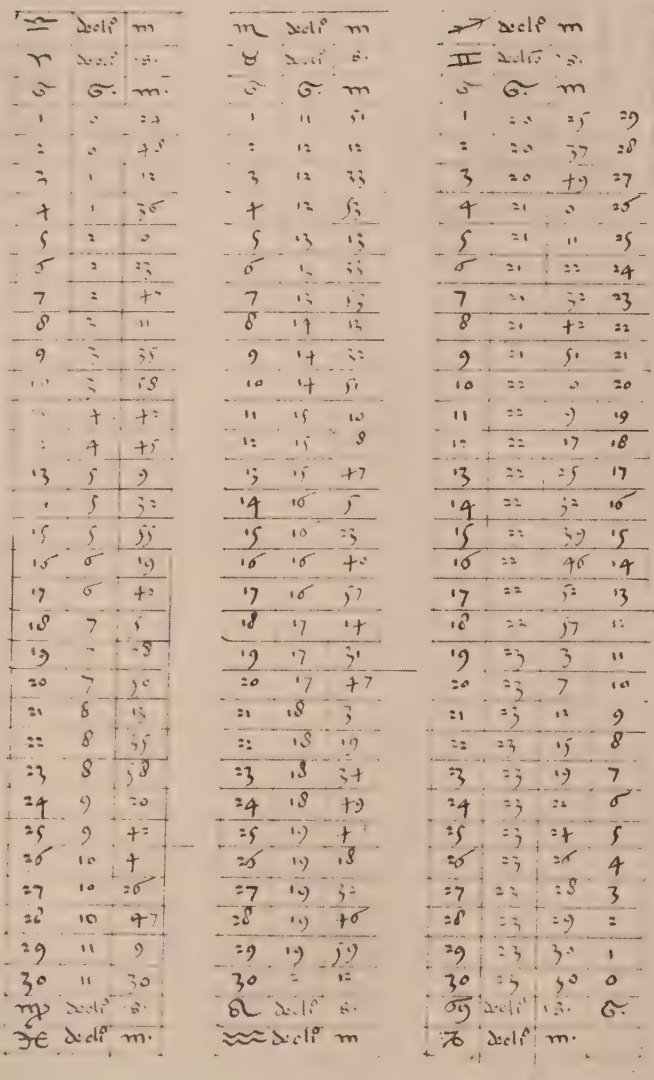
The atlas comprises a table of declinations and an armillary sphere on single pages, a double-page zodiac, and ten maps 30×19.5:

> Nos. 1, Pacific Ocean; 2, Atlantic Ocean; 3, Indian Ocean; 4, Northwest Europe; 5, Spain and Northwest Africa; 6, West Mediterranean; 7, Central Mediterranean; 8, East Mediterranean; 9, Black Sea; 10, Oval world-map.

The atlas is bound in what is said to be the original calf with stamped lines, and has a compass in the back cover surrounded by a windrose.

The information furnished by Mr. Rosenthal is not very extensive nor explicit. His description of No. 4 would seem to indicate that the map covered Central Europe as well, but as he states that the maps are like those in the Charles V atlas in the John Carter Brown Library (Atlas XXXII) and as the corresponding map in that atlas is of Northwest Europe only, except for the names of a few countries and provinces, I presume that it belongs to much the same period as that atlas. Although the oval map is stated to show the Magellan route around the world, nothing is said of the one to Peru, which, however, no doubt it has.

CHARACTERISTIC FRAME OF THE EARLY PERIOD



DECLINATION TABLE

ARMILLARY SPHERE

PISCIS.
ARIES.
TAVRVS.
GEM.
APRILIS.
MAIVS.
MARTIVS.
FEBRVARIVS.
IANVARIVS.

CANCER.
LEO.
VIRGO.
LIBRA.
SCORPIO.
SAGITTARIVS.
SAITAI
AVGVSTVS SEPTEMBER.
OCTOBER.
NOVEMBER.

TROPICVS·CANCRI·
INSVLE·MALVCHE·
Bitollo
8°
7°
AEQVINOCTIALIS
4°
3°
TROPICVS·CAPRICORNI

AN

TERRA DE BACALAOS
Isabe muda
TROPICVS CANCRI
AEQVINOCTIALIS
PERV PROVITIA
MVNDVS NOVVS
TROPICVS CAPRICORNI
RIO DE LA PLATA

MAVRITANIA
AEGIPTVS
ARABIA FEL
AETIOPIA
SVB AEGIPTO
C. DE BONA ESPERAZA

EAN

NOROESTE
ASIA
TROPICVS CANCRI
AEGIPTVS
AETHIOPIA
SVB AEGIPTO
AEQVINOCTIALIS
OESTE
TROPICVS CAPRICORNI
C. DE BONA ESPERANZA
SVDOESTE

INDI

NORDESTE
PERSIDIS
TAPROBANA
INDICVM MARE
LAVRENTII
DESTE
SVDESTE

AN

NORTI

BATIA
GOTTICV MARE
MAGNA GERMANIA
CLEVES
BRABANT
FLANDRA
FRIA
SVICERI
SAVOIA
LONBARDIA
M ADRIATICV
DALPHINATVS
PROVENZA
LIGVSTICV M
GALICV MARE
ITALIA
CORSICA

EUROPE

HISPANIA
REGNVM
PORTVGA
LENSIVM
FRETVM HERCVLEVM
INSVLE FORTVNATE NVNC CANARIE
MAVRITAN
TINGITANA

SPAIN AND

GVASCONIA
NV·NAVARRE
ATALONI
RRACONE
REGNVM·TREMISE
MAVRITANIA

WEST AFRICA

REGNV·NAVARRE
HISPANIE·PARS
CATALONIA
REGNV·GRANATE
EL·STRETO·ZIBELTER
albozem

PROVENSA
LIGVSTICVM
ITALIE PARS
CORSICA
MARE BALEARIV
SARDINEA
REGNVM TVNIS
AFRICA

ANEAN

ALBANIA
PVGLIA
DALMATIA
ROMAGNA
MARCA
ABRVTO
FRIVL.
LONBARDIA
COMASCA
SABINEA

CENTRAL M

MARE PVNICVM
SIRTIS MAGNA
SIRTIS PARVA
SICILIA
REGNVM TVNIS
AFRICA

RANEAN

GRÆCIÆ PARS
DALMATIA
ALBANIA
MOREA
CALABRIA
ITALIÆ PARS
MARE PUNICUM
AFRICUM

EAST ME

M·MAIVS·
ARMENIA
MINOR·
CAPPADOCIA·
GALLATIA·
ASIA·PROPIE
PAMPHILIA·
CILICIA·
LICIA
CAPRVS·
SIRIACVM·
IVDEA
AEGIPTIACV·
AEGIPTVS·
ARABIA·PETR
AEA·

NEAN

DACIA·NVNC·TRANSILVANIA·
MAISTRO
TARTARIA
TRAMONTANA
TAVRICA
BVRGARIA·
VELACHIA·
PONENTE
MARE
GRETIA·
PONTVS ET BITHI
NIA
GALLATH
GARBIM
ASIA PROPIE

TARTARIA
TARTARIA
CIRCASIA
GREGO
MENGRELIA
MAIVS
LEVANTE
ARMENIA MAIOR
ARMENI MINOR
CAPPADOCIA
SIROCHO

CAI RVS·COPVS·VEL LAPIGIA·IGEVIS·
CIRCVLVS·ARTICVS
SEPTEMTRIONE APARTIAS·
CIRCVLVS·ARTICVS
CATAIO·PROVINTIA·
MALVCHE·ISVLE·
AEQVINOCTIALIS·
TROPICVS·CAPPRICORNI·
CIRCVLVS·ANTARTICVS·
AFRICVS·VEL·IBVS·
LIBONOTVS·EVROAVSTE·

AQVILO VL BOREAS
CAECIAS APELIOTES
CATAIO
ASIA
AETHIOPIA
INDICVM MARE
INSVLA S LAVRETII
C DE BONA SPERANZA
IAPROBANA
S GAGETH
SINVS
EVRONOTVS
VILTVRNVS EVRVS
AVSTER VL NOTVS

MAP

ATLANTI

PHERE

WINDROSE SURROUNDING HOLE FOR COMPASS

RUSSIAN EXPANSION TO AMERICA

ITS BIBLIOGRAPHICAL FOUNDATIONS

By Robert J. Kerner

THE key to the expansion of Russia to the Far East and to America is to be found in the loss of the valley of the Amur to China by the Treaty of Nerchinsk in 1689 and in its reacquisition in the period from 1854 to 1860. The eastward movement of Russia for nearly two centuries, spreading as it did over two continents and the northern half of the Pacific, can be adequately explained only in the light of this central fact.[1]

It has heretofore been maintained that the importance of the Amur region was not clearly understood at Moscow or at Peking, that it was underestimated in its future significance.[2] The evidence, however, is against any such view. Its loss was regarded by Russian statesmen not only as a stupid blunder, but as a catastrophe for the state, for in 1689 the Amur was Russia's only access to the sea. Secret plans were laid to regain it soon thereafter. Peter the Great, who began his reign in the disastrous year of 1689, maintained that there were three points of capital importance to Russia: the mouths of the Don, the Neva, and the Amur.[3]

The loss of easy access to the Pacific had a decisive significance for many reasons. First and foremost, it deprived Eastern Siberia and Russian America of a source of food supply without which permanent occupation of these regions was virtually out of the question. In the second place, it prevented Russia from obtaining a strong footing in the commerce of China, whether

by the rivers Amur and Sungari and then overland through Manchuria or by the sea from the mouth of the Amur. Next, it hindered plans to open Japan to Russian commerce. Fourth, as neither Okhotsk on the sea of Okhotsk nor a port on Kamchatka could serve in the place of the Amur region as a fortified land and maritime base for Russian expansion oversea to America and on the Pacific, it doomed that extension of Russia's power to a precarious existence at the hands of the navies and armies of unfriendly Powers. And finally, it forced the Russians established in Alaska to send their furs over a costly and difficult land route from Okhotsk to Kiakhta in order to trade in this commodity with China, since the latter state refused to trade with the Russians directly except over the land frontier. Like a red line the disaster sealed in the Treaty of Nerchinsk runs through the history of the Russian eastward movement for nearly two centuries.

Siberia, described by one of Russia's ambassadors to China as a possible "empire endowed with every kind of soil and fruits in abundance," thereupon became "very much like a desert."[4] "Formerly," his report stated, "to the end of the seventeenth century, commerce between Russians and Chinese was very active and remunerative for the Russians. At that time the Russians utilized the basin of the Amur and the Manchus, occupied by war, did not engage in the hunt. The Treaty of Nerchinsk and the establishment of the Manchus in China have changed these conditions. . . . ."[5]

Peter the Great, as has already been noted, was aware of the significance of the Amur. Western European academicians had, in 1717, urged him to send an expedition to prove whether Asia and America were united or separated. After obtaining the Neva in 1721 and after having previously failed to secure direct access to the Black Sea through the Don, he sent Bering in 1725 ostensibly "to win for [Russia] glory along the lines of the arts and sciences" by finding out "the relation between Asia and

America."[6] Secretly, it appears, an effort was to be made eventually by Bering or his associates to open up the Amur question possibly in connection with an expedition by land. This is known from the "Secret Information" of Sava Vladislavich, Russian ambassador to China at the time. In describing various routes from Siberia to China, Sava Vladislavich takes up the one from Nerchinsk down the Shilka and the Amur to the sea and then by sea to the "famous port of Toundjii" (Tientsin?) seventy versts from Pekin. He adds, "An attack is being prepared to seize this route. We shall need a strong fleet. That is the task of Bering."[7]

In Bering's proposal for a second voyage prepared sometime in 1731 or the next year he writes, "It would not be without advantage to find a sea route from the Kamchatka or Okhota River to the Amur or Japan, since it is known that these regions are inhabited. . . . ."[8] That besides the ostensible contribution Russia was to make to science in proving the exact relation of Asia to America there were other objectives is also to be seen in the official instructions drawn up for Bering's second voyage.[9]

13. Captain Bering and all the officers in command of the ships at sea should keep secret the instructions from the Admiralty College. For Bering, Chirikov, Spanberg, and the officers in command of the sloop which is to go east of the Lena to Kamchatka, special instructions are issued, and these may be made public. These public instructions are to state that at the request of the St. Petersburg, Paris and other academies the Emperor Peter the Great, of deserving and eternal fame, sent, out of curiosity, an expedition along his own shores to determine whether Asia and America are united. But the expedition did not settle that point. Now Your Imperial Majesty, influenced by the same reasons, is ordering a similar expedition and for a similar purpose. If you should come to settlements under European or Asiatic jurisdiction or if you should meet with ships of European or Asiatic governments, and are asked the object of your voyage, you may tell what has just been said. If they demand to see your instructions, show them. This will allay their suspicions, because it is well known that European Powers have sent out expeditions and that the question whether Asia and America are united is still unanswered.

Evidently here is a splendid opportunity for the historical investigator to discover the secret instructions, written or oral, explaining all the motives of Peter the Great and his successors

in regard to Bering's voyages.[10] Enough has been shown here to indicate that the reacquisition of the Amur very probably was one of the most important among them. It would appear, also, that the founding of Russian America was more or less an accident, a by-product of this major purpose. Its establishment and maintenance were acceded to reluctantly by the government, and, when the Amur was regained by 1860, Russia was most anxious to relinquish her position in Alaska.

These are the fundamentals which must not be lost sight of by historians who seek to tell the story of efforts made by Shelekhov, Baranov, and Wrangell to create a Russian empire in America. Unfortunately there has heretofore been no attempt to see the Russian eastward movement as a whole, to place the Amur question in its proper setting, and to view the policies of the governors of the Russian American Company in any other light than their local significance.[11] Only by historical investigation of such a sweeping character will the far-reaching plans of Baranov to establish a sea and land empire surrounding the northern Pacific and based on four points—Okhotsk, Sitka, Fort Ross, and the most northern of the Sandwich Islands—receive their true evaluation and the causes of the ultimate failure to found an empire laid bare.

Having obtained a perspective of the task as a whole, it becomes less difficult to see the part which Russian America played not only in the eastward movement but in the settlement of North America.[12] If it is kept in mind that it was an accidental by-product connected by a most slender thread—the sea route to Okhotsk and the land route from Okhotsk to Yakutsk and then on to Kiakhta, the Chinese entrepôt—then the discovery and the settlement of the Aleutian Islands and Alaska, of Fort Ross and the Farallones, and of the most northern island of the Sandwich group in competition with the Spanish, Americans, and English become an intelligible story, even though a complicated one. Under such conditions the Russian American Com-

pany turns out to be the only instrument which can bring order out of the cutthroat chaos of individual fur-trade enterprise. Its governors in Alaska foresee that a basis of food supply and trade must be secured in order to save it and to establish an empire. This leads to the founding of Fort Ross in California.[13] The search for commodities for trade and for further sources of food supply also leads to the unsuccessful attempt of Sheffer to establish Russian power in the Hawaiian Islands.[14] The amount of land at Fort Ross proves inadequate to serve as a food basis for Alaska and eastern Siberia.[15] On the other hand, the Russian government is faced by the opposition of the Spanish who refuse to recognize the legality of a Russian settlement at Fort Ross and plant missions around it,[16] and by the opposition of the United States, a part of whose Monroe Doctrine is aimed at Russian expansion on the North American continent.[17] The English as individuals and the English government, each in their own way, hinder the schemes of Baranov and Wrangell. And in spite of the plans and arguments of the Russian American Company, the Russian foreign office begins to yield step by step, fearing to enrage either England or the United States or both. First, it agrees in 1824 not to found any settlements south of 54°40′.[18] Then it refuses to sanction the transformation of Fort Ross into an extensive Russian colony in northern California, because to do so would mean to recognize the independence of Mexico as the *quid pro quo*.[19] Since Alexander I turned conservative and adopted the principle of legitimacy, instead of self-determination of nations, Nicholas I had developed it into a principle for the self-preservation of Russia. To recognize the results of revolution in Europe and in the Spanish-American colonies would have been to invite revolution in Russia. This principle of Russian foreign policy sealed the fate of Fort Ross, which either had to become the center of a Russian colony extending for a considerable distance inland at the cost of the recognition of Mexico or had to be abandoned. It was sold to

Sutter in 1841. This undermined the future of Russia's control of Alaska and led the Russian American Company to give its attention to the opening-up of the Amur question.[20]

The opening-up of Southern China in 1842 by England alarmed Russia. The secret agreement of 1844 between England and Russia in regard to the Turkish Empire was one of the results. It was an attempt to solve amicably the growing political and commercial rivalry of the two great empires in that part of the world.[21] The commercial advance of industrialized England into the Chinese market caused Russia to fear for her position on the northern flank of China and to begin once more earnestly to think of regaining the Amur as the best highway by land and sea into the northern Chinese market before the English could dominate it at the mouth of the Amur. It was in the light of these developments that Nikolai Nikolaevich Muraviev was appointed governor of eastern Siberia in 1847. It was this far-seeing statesman who secured the Amur for Russia (1854–58) and who laid the foundations of Russian foreign policy in the Far East and the Pacific for generations after him.[22] He foresaw that Russia must reconsolidate in Asia, relinquish Alaska to the United States, and obtain a dominant position in Northern China. The Crimean War gave him the opportunity which the aged minister of foreign affairs, Count Nesselrode, would not allow him. In 1860 Russia was firmly planted on the Pacific and had the right to trade in the Chinese market by sea as well as by land. Muraviev had turned the disaster in Europe into a triumph in Asia.

The negotiations to relinquish Alaska to the United States began under such circumstances and, from the Russian point of view, were dominated primarily by reasons of high policy first cogently stated by Count Muraviev-Amurskii, though the fact that the venture of the Russian American Company was a financial failure naturally played a rôle in the story.[23] For those seeking the main lines of the development in the perspective, it

is not difficult to see how and why the attempt to found an empire by Russia in America was a failure. After the emancipation of the serfs in 1861, colonists could have been found, and the Amur might have served as a base for such an enterprise which would have been transformed from a fur-trading to an agricultural and mining enterprise. But in the meanwhile three Powers engaged with Russia in strenuous competition in the northern Pacific: industrialized England, aggressive in commercial expansion and mistress of the seas at a time when a new type of warship increased that mastery over Russian naval power; the United States, taking her place on the Pacific and waxing in political and economic strength; and awakening Japan, opened up by the United States, a new rival for Russia. This presaged the end of oversea Russian expansion. Under such circumstances Alaska was sold to the United States in 1867, and Russian dominion vanished from the North American continent.

Bibliographies

The historical perspective has shown that the development of Russian America was intimately connected with the course of events in Siberia and with the major tendencies of Russian foreign policy. It has also been seen that an adequate bibliographical network must base itself not only on this fundamental fact but must include the main bibliographical approaches to Spanish, American, and English historical literature. Some day when Chinese and Japanese scholars uncover the material which undoubtedly exists on their side, new light will be thrown on Russian expansion in Asia in general and in Siberia in particular and thus indirectly upon Russian America.

Elsewhere the present writer has analyzed Russian bibliographies of bibliographies which must be examined before reasonable confidence can be gained that most material and works of importance have been found.[24] It will be seen that V. Mezh-

ov,[25] the father of Russian bibliography, has contributed most heavily here, not only in his general *Systematic catalogs* and *Lists*, which include material published from 1825 to 1888, but also in his special Asiatic and Siberian bibliographies. For over two decades this truly prodigious bibliographer published volume after volume of the highest importance in this field. While his works are not always well classified and thorough search in many parts of each volume is necessary, Mezhov remains today a wonderful storehouse of materials of the greatest value. In many ways supplementing Mezhov are the bibliographies of S. N. Mamieev, A. A. Ternovskii,[26] N. I. Kaidanov,[27] and D. N. Pozdnieev.[28] Of great importance in investigating the literature of discovery and settlement by sea is the remarkable *Russian marine library, 1701–1851*[29] published by A. P. Sokolov. It is absolutely indispensable for thorough research in this field from the Russian side. The late Professor Frank A. Golder whose name must appear alongside of Tikhmenev and Bancroft, because of his extensive contributions to our knowledge of Russian expansion to the Pacific and North America, gives the key to many documents and bibliographical details in his *Guide to materials for American history in Russian archives* (Washington, 1917). Unfortunately no similar guide has been published on Siberian documents for the history of Siberia from the Russian side.

Before crossing over to North America it should be noted again that scholars are handicapped at present in their search for materials in Chinese and Japanese by the lack of adequate bibliographies. The bibliographies of J. L. Zenker,[30] H. Cordier,[31] and F. V. Wenckstern,[32] though they give clues to material in the native Asiatic languages and in some cases cite it, find their chief value in lists of works in European languages.

Besides the well-known fundamental American and English bibliographical works of wider scope, all of which need further exploration in the light of new interpretations, there must be

mentioned the excellent and well-arranged bibliography of James Wickersham, published under the title of *A bibliography of Alaskan literature, 1724–1924* (Cordova, Alaska, 1927). Supplementing Sokolov from the Russian side is O. Rich's *Bibliotheca Americana nova* (1701–1800) (2 vols.; London, 1846), which contains a catalogue of books relating to voyages to the Pacific.[33] Among other bibliographies study of which will repay the investigator may be mentioned those of C. Leclerc,[34] Katherine B. Judson,[35] Charles W. Smith,[36] and G. M. Wrong and H. H. Langton.[37] These are devoted particularly to the Pacific Northwest. Alexander S. Taylor, father of California bibliography, in his *Bibliografa Californica* (in the *Sacramento Daily Union*, June 25, 1863; suppl. March 13, 1866) and Robert E. Cowan in his *Bibliography of the history of California and the Pacific West, 1510–1906* (San Francisco, 1914) furnish further material in this field.

In nearly all respects, after the Russian the Spanish material is the most important for this subject. We need not pause to enumerate the well-known Spanish bibliographies in general, but direct our attention to the more special bibliographies. To make a beginning one must turn to the large and comprehensive Hispanic-American bibliography of José Toribio Medina[38] which covers the period 1493–1810. The bibliographical works of José Fernando Ramirez,[39] Esperanza Velázquez Bringas,[40] and Alfredo de Chavero[41] may give added items of value. More easily accessible and useful in many ways are H. R. Wagner, *Bibliography of printed works in Spanish relating to those portions of the United States belonging to Mexico* (Santiago de Chile, 1917), and Cecil K. Jones, *Hispanic American bibliographies, including collective bibliographies, histories of literature and selected general works* (Baltimore, 1922).

Able American scholars have prepared guides to archival materials which are invaluable for running down documents and often contain bibliographical data. Among these should be men-

tioned W. R. Shepherd, *Guide to the materials for the history of the United States in Spanish archives* (Washington, 1907); Herbert E. Bolton, *Guide to materials for the history of the United States in the principal archives of Mexico* (Washington, 1913); J. A. Robertson, *List of documents in Spanish archives relating to the history of the United States* (Washington, 1910); and Charles E. Chapman, *Catalogue of materials in Archivo General de Indias (for the history of the Pacific Coast and the American Southwest)* (Berkeley, 1919). In this connection there is also the *Indice de documentos de Nueva España ... existentes en el Archivo de Indias de Sevilla* (2 vols.; México, 1929).

Outstanding among American libraries for the study of this subject are the Library of Congress with its Yudin Collection, the Bancroft and Miliukov libraries of the University of California, and the library of the University of Washington (Seattle). In the Bancroft Library there are numerous manuscripts which have not been fully utilized to the present time.

Source Material and Secondary Works

As has been noted before, a basic account of Russian America must rest on a thoroughly co-ordinated study of the Russian eastward movement overland and oversea as a whole. While many of the documents formerly lodged in Siberian depositories have disappeared, the recent centralization of archives carried out by the Soviet Union[42] will undoubtedly make available a great deal of material heretofore scattered in the archives of numerous ministries and in Siberia. Along with this should be mentioned the Sitka archives, now deposited in the Department of State at Washington, comprising some one hundred and eighty-two volumes of manuscripts containing the correspondence of the officials of the Russian American Company and accounts of expeditions, logbooks, and other materials. Certain beginnings in the publication of documentary material will be found in *Historical documents*[43] and the *Supplements to historical*

documents,[44] which are valuable primarily for the seventeenth century. Decrees, ukases, and legislation of one sort or another are to be found in the *Complete collection of the laws of the Russian Empire*.[45] Incomplete, but fundamental, to a thorough knowledge of the beginnings of Russian America and of the history of the Russian American Company are the documentary appendixes to the two volumes of Tikhmenev's thorough and comprehensive work in Russian entitled *Historical survey of the founding of the Russian American Company and its history to the present time*.[46] The documents found in the appendixes of works by J. Cahen[47] and I. Barsukov[48] supplement this material.

Along with these sources which deal primarily, though not exclusively, with overland expansion, further investigation should also be undertaken coincidently in the documents laying bare the oversea aspects of the story of Russian expansion which goes back to the farsighted activity of Peter the Great. For this, further research in the centralized archives in Moscow appears necessary, as has already been indicated in the new interpretation presented at the beginning of this study. Here will undoubtedly be found some record of the underlying motives of the Bering voyages, the journals of which the late Professor Golder[49] published. There remain to be found the secret instructions issued to Bering. Some hints are to be found in the works of V. N. Berkh.[50] The noted Russian geographer, K. E. von Baer,[51] in several articles published in the *Papers of the Russian Geographical Society*, has furnished many additional details. Besides the short notice of Bering's life by Berkh,[52] there is an account by the famous Russian naval bibliographer and historian, A. L. Sokolov.[53] Short pioneer accounts of the discovery of the North American coast are also to be found in the works of N. A. Polevoi[54] and K. T. Khliebnikov.[55] The later voyages of A. Krusenstern[56] and O. von Kotzebue,[57] as well as overseas contacts of the Russians and the Spanish,[58] throw further light on Russian motives and Spanish fears.

It is apparent to those who have had an opportunity to delve into the subject of Russian eastward expansion as a whole that basic accounts which co-ordinate and thus explain it in its manifold character still remain to be written in the light of new materials which are becoming accessible. The late Professor Golder's *Russian expansion on the Pacific, 1641–1850* (Cleveland, 1914) was written before this became a reality, and H. H. Bancroft's[59] extensive works covering this field from the American side, as well as those of his American and English successors, are for the most part narrowly conceived. But before this can be done, thorough detailed research at various points must be carried out.

If now we turn more specifically to the history of the Russian American Company, not only in regard to its Alaskan base, but also its trade route to Kiakhta through Siberia and its attempts to found colonies at Fort Ross and on the Sandwich Islands, we find Tikhmenev's work, already cited for its documentary appendixes, the fundamental secondary account.[60] It was this work which H. H. Bancroft followed so closely through the assistance of his Russian collaborator, Ivan Petrov, who, by the way, limited himself wholly to those parts of Tikhmenev's works which dealt only with the future Alaska and the rest of the northeast coast of the Pacific. The result has been to lose connection with the Russian eastward movement as a whole and to bring about a lack of co-ordination. In this Bancroft has been followed by American and English writers. H. Pilder wrote in German a short, but valuable, monograph in which he studied the Company as a commercial enterprise down to 1825.[61] A similar study was completed by H. J. Holmberg.[62]

Useful in the history of the Russian American Company will be found the life and travels of G. Shelekhov,[63] its founder. It contains much material regarding the causes of Russian expansion to America. Shelekhov's successor, A. A. Baranov,[64] was also a Siberian merchant. His dynamic personality dominated

the affairs of the Company as its director for twenty-eight years. He it was who conceived grandiose plans for the creation of a Russian colonial empire based on Sitka, Okhotsk, Fort Ross, and the Sandwich Islands. Nikolai Rezanov, the son-in-law of Shelekhov, was involved in the execution of these ambitious plans. Although there are several accounts of Rezanov's visits to Kamchatka, Japan, Alaska, and California, they are not of equal merit. His papers were first published in 1822–25,[65] and later reprinted by Tikhmenev.[66] The Rezanov documents, thus printed, form the basis of most of the recent works of this phase of the history of California, including the romantic affair of Doña Concepción. Further light on the history of the Company is to be found in Alexander Markov's short, but valuable, work[67] which gives a survey of the situation in Russian America at this time. Valuable in this respect are also the various accounts of I. F. Lisianskii,[68] Theodore Shemelin,[69] V. M. Golovin,[70] G. I. Davydov, N. A. Khvostov,[71] D. I. Zavalishin,[72] and Baron F. P. von Wrangell.[73] Shemelin and Wrangell were directors of the Russian American Company. Zavalishin, the celebrated Decembrist conspirator, was in Russian America before 1825. He was so impressed with the great possibilities of the Russian American Company that he became a zealous convert to Baranov's idea of building up a vast empire on the northern shores of the Pacific. Why he and others failed has already been touched on in the brief historical introduction. The short stay of the Russians in California has already led to a relatively large literature on the subject. Early accounts of this attempt to establish a colony which was designed not only to trade with the Spanish, but also to feed the rest of the Russian colonial empire, are to be found in Russian by V. Potiekhin[74] and in Spanish by M. Payeras,[75] who accompanied a Spanish mission to the fort. Unable to dislodge the Russians by force because of their military and naval preponderance on the Pacific at that time, the Spanish resorted to diplomacy and to literature. The

best recent account of this phase of Russian expansion, which closed in 1841 with the sale of Fort Ross to Sutter, is by P. Gronskii.[76] Final contemporary accounts of the Russian American Company's last years were written by V. G. Politovskii[77] and P. N. Golovin.[78]

To understand the economic basis of Russian America one must study the fur trade. Material on this very important activity will be found in Russian periodicals.[79] Particularly significant are the articles by V. N. Berkh[80] and Ferdinand von Wrangell.[81] The late Professor Golder[82] has traced gold-mining during the Russian period of Alaskan history, and the relations between the Russian American and the Hudson Bay companies have been covered both by him[83] and by A. R. Roche.[84] The international complications called forth by the activities of the Russian American Company, especially in connection with its reactions on the United States and England, may best be studied in the monographs of J. C. Hildt,[85] G. H. Heinz,[86] D. Perkins,[87] B. P. Thomas,[88] V. J. Farrar,[89] S. Shosuke,[90] and J. M. Callahan.[91] Particularly noteworthy are those by Perkins and Callahan. Nevertheless, there is still room for a study on Russian foreign policy from the beginnings of Russia's expansion to America to its close which will take due account of the principles evolved under Alexander I and Nicholas I in their reaction upon Russian expansion.

From this all-too-brief analysis it will be seen that considerable research still remains to be done. The task of carefully coordinating the detailed story of Russia's attempt to found an empire in America is still unaccomplished. The time has come, however, when it may be undertaken with greater assurance of success.

Notes

1. In presenting this interpretation in brief form the purpose of the few references herein cited is merely to suggest the way in which it has been derived. They are not exhaustive in any respect.

2. Cf. F. A. Golder, *Russian expansion on the Pacific, 1641–1850* (Cleveland, 1914), pp. 64–66. It is also known that the Chinese emperor Kang-hsi had made it a special aim of his reign to drive the Russians out of the Amur region. He knew what he was about. See Ch'in T'ao Ho, *Record of the pacification of the Russians* (Pekin, 1890) (in Chinese), cited by J. W. Stanton, *Foundations of Russian foreign policy in the Far East, 1847–1854* (University of California, 1930), pp. 16–18.

3. Cited in C. de Sabir, *Le fleuve Amour* (Paris, 1861), p. 38.

4. See the documentary Appendix, Gaston Cahen, *Histoire des relations de la Russie avec la Chine sous Pierre le Grand (1689–1730)* (Paris, 1912), p. lxviii.

5. *Ibid.*, p. lxxii, giving extracts of *Information secrète de Sava Vladislavich, 1730* (Archives of the Ministry of Foreign Affairs, Moscow), No. 5, pp. 60–69 v°.

6. F. A. Golder, *Bering's voyages* (2 vols.; New York, 1922), I, 8–9, n. 10, citing L. N. Maikov, *Razskazi Nartova o Petre Velikom* (St. Petersburg, 1891), p. 99.

7. Cahen, *op. cit.*, Appendix of Documents, pp. lxxi-lxxii.

8. Golder, *Bering's voyages*, I, 26.

9. *Ibid.*, p. 31.

10. J. W. Stanton, teaching fellow in history in the University of California, who assisted in the preparation of this study, is investigating the Russian eastward movement from the point of view presented here and will soon complete his work under the title of *The Foundations of Russian foreign policy in the Far East, 1847–1867*. No attempt is made in this place to follow in detail later plans to secure the Amur.

11. Tikhmenev appears to be the only writer who touches on some of the ideas here emphasized.

12. Fundamental research in this field must base itself, so far as published material is concerned, on I. Barsukov, *Graf Nikolai Nikolaevich Muraviev-Amurskii* (2 vols.; Moscow, 1891); P. Tikhmenev, *Materialy dlia Istorii Russkikh Zaselenie po Beregam Vostochnago Okeana* (St. Petersburg, 1861) and *Istoricheskoe Obozrienie Obrazovaniia Rossiisko Amerikanskoi Kompanii i Dieĭstvii eia do nastoiashchago Vremeni* (2 vols.; St. Petersburg, 1861–63); and other works hereinafter cited.

13. Tikhmenev, *Istoricheskoe Obozrienie*, I, 134 ff. The latest and best account is by P. Gronskii, "Russkie v Kalifornii v Nachalie XIX Stolietiia," *Sbornik Statei posviashchennykh P. N. Miliukovu* [Praha, 1929]) (cited hereafter as *Miliukov Sbornik*). In its early history Fort Ross became an industrial center for northern California, and, in spite of the opposition of Spanish high officials, a relatively large trade was carried on.

14. Besides Tikhmenev, *Istoricheskoe Obozrienie*, I, 186–92; see the best and most recent study by P. Gronskii, "Les Russes aux îles Hawaii au début du XIX^{e} siècle," *Le monde slave*, IV, No. 10 (October, 1928), 21–39. The Bancroft Library (University of California) possesses the following manuscript: Igor F. Sheffer, "Les Russes aux Iles Hawaii, 1816–18."

15. See Tikhmenev, *op. cit.*, I, 220 ff.; 359 ff.; and Gronskii, *Miliukov Sbornik*, pp. 391–99.

16. Gronskii, *Miliukov Sbornik*, pp. 400–403.

17. Excellently analyzed in Dexter Perkins, *The Monroe Doctrine, 1823–26* (Cambridge, 1927), pp. 3–39.

18. John C. Hildt, *Early diplomatic negotiations of the United States with Russia* (Baltimore, 1906), pp. 157–94.

19. See nn. 14 and 15.

20. *Sbornik .... materialov po Azii* (*Voenno Uchenago Komiteta Glavnago Shtaba*) (St. Petersburg, 1888), XXXI, 60–61. See Theodor Schiemann, *Geschichte Russlands unter Kaiser Nikolaus I* (4 vols.; Berlin, 1904–19), II, 397 ff.

21. See R. J. Kerner, "The importance of Eastern European history," *Historical outlook*, XV (1924), 343–47, and a further development of it as regards the Near East in the doctoral dissertation by V. J. Puryear, *England, Russia and the Straits Question, 1844–1856: A study in the diplomatic history of the Crimean War* (University of California, 1930).

22. The standard authority, which publishes the famous memoranda of the governor, is I. Barsukov, *Graf Nikolai Nikolaevich Muraviev-Amurskii* (2 vols.; Moscow, 1891). J. W. Stanton in his Master's dissertation, *The foundations of Russian foreign policy in the Far East, 1847–54* (University of California, 1930), has analyzed this period. See also Baron A. Buksgevden, *Russkii Kitai* (Port Arthur, 1902), and A. Popov, "Tsarskaia diplomatiia v Epokhu Taipinskogo Vosstaniia," *Krasnyi Arkhiv* (Moscow, 1927), XXI, 182–99.

23. See Frank A. Golder, "Purchase of Alaska," *American historical review*, XXV, No. 3 (April, 1920), 411–25, and Tyler Dennett, "Seward's far eastern policy," *ibid.*, XXVIII, No. 1 (October, 1922), 45–62. The motives of Russian policy which dominated the question as stated by Muraviev-Amurskii are to be found in material published in B. V. Struve, *Vospominaniia o Sibiri* (St. Petersburg, 1889), pp. 153–54, and I. Barsukov, *op. cit.*, II, 35 ff.

24. Robert J. Kerner, *The foundations of Slavic bibliography*, reprinted for the Bibliographical Society of America (Chicago, 1916), and *Slavic Europe; A selected bibliography in the Western European languages, comprising history, languages and literatures* (Cambridge, 1918).

25. Beginning with N. Lisovskii, *Bibliografiia, Obzor Trudov bibliograficheskago Soderzhaniia* (St. Petersburg, 1900), the investigator should turn, among others, to V. Undolskii and G. Gennadi, *Literatura russkoi Bibliografii* .... (St. Petersburg, 1858); V. Mezhov, *Sistematicheskii Katalog s 1825 do 1869* (St. Petersburg, 1859) and supplements; P. Efremov, *Sistematicheskii Rospis Knigam, 1855–66* (St. Petersburg, 1867); supplements 1867–73 (St. Petersburg, 1869, 1874); V. Mezhov, *Sistematicheskii Rospis Knigam, 1873–1881* (St. Petersburg, 1880; with supplements 1881–92; 1883–87, St. Petersburg, 1884, 1889); V. Mezhov, *Russkaia istoricheskaia Bibliografiia, 1800–1854* (3 vols.; St. Petersburg, 1892–93); P. and B. Lambin, *ibid.*, 1854–64 (10 vols.; St. Petersburg, 1861–64); V. Mezhov, *ibid.*, 1865–76 (8 vols.; St. Petersburg, 1882–90); V. S. Ikonnikov, *Opyt russkoi Istoriografii* (Kiev, 1891–92); N. Lisovskii, *Russkaia periodicheskaia Pechat, 1703–1894* (St. Petersburg, 1895 ff.); Gosudarstvennoe Izdatelstvo, *Katalog knizhnykh Skladov Torgovogo Sektora* (Moscow, 1923); *Biulletin Gosudarstvennogo Izdatelstva* (Moscow, 1924 ff.); *Russkaia zarubezhnaia Kniga* (Praga, 1924); and the current periodicals cited in the works in n. 24.

26. Mamieev, *Materialy dlia Bibliografii Sibiri* (Tobolsk, 1892); Ternovskii, *Materialy dlia Bibliografii Sibiri* (Tobolsk, 1893).

27. *Sistematicheskii Katalog Dielam sibirskago Prikaza* .... (St. Petersburg, 1888).

28. *Opisanie Mandzhurii* (2 vols.; St. Petersburg, 1897).

29. *Russkaia morskaia Biblioteka, 1701–1851*, 2d ed. by V. K. Shults (St. Petersburg, 1882).

30. *Bibliotheca Orientalis* (2 vols.; Leipzig, 1846–61).

31. *Bibliotheca Sinica* (2 éd.; 4 vols.; Paris, 1904–8).

32. *A bibliography of the Japanese Empire* (Leiden, 1895). See also Oskar Nachod, *Bibliography of the Japanese Empire, 1906–1926* (2 vols.; Leipzig, 1928).

33. See also W. H. Dall and Marcus Baker (pp. 167–375) in *Pacific Coast pilot* (2d ser.; Washington, 1879).

34. *Bibliotheca Americana: Histoire, géographie, voyages, archéologie et linguistique des deux Ameriques et des Philippines* (Paris, 1878).

35. *Subject index to the history of the Pacific Northwest and of Alaska* .... *1789–1881* (Olympia, Wash., 1913).

36. *Pacific Northwest Americana* (New York, 1921) and *Check-list of books and pamphlets relating to the history of the Pacific Northwest* (Olympia, Wash., 1909).

37. *Review of historical publications relating to Canada* (Toronto, 1911).

38. *Bibliotheca Hispano-Americana* (1493–1810) (7 vols.; Santiago de Chile, 1898–1907).

39. *Bibliotheca Mexicana* (London, 1880); *Obras* (México, 1898–1904).

40. *Indice de escritores* (México, 1928).

41. *Apuntes viejos de Bibliografía Mexicana* (México, 1903).

42. For an account of the recent reorganization of Russian archives see A. F. Iziumov, "Moskovskii Tsentral'nyi Arkhiv," *Miliukov Sbornik*, pp. 529–47.

43. *Akty istoricheskie* (5 vols.; St. Petersburg, 1841–42).

44. *Dopolneniia k Aktam istoricheskim* (12 vols.; St. Petersburg, 1844–67).

45. *Polnoe Sobranie Zakonov Rossiiskoi Imperii* (44 vols.; St. Petersburg, 1830).

46. *Istoricheskoe Obozrienie Obrazovanie rossiisko-amerikanskoi Kompanii i Dieĭstvii eia do nastoiashchago Vremeni* (2 vols.; St. Petersburg, 1861–63). See also his *Materialy dlia Istorii Russkikh Zaselenie po Beregam Vostokhnago Okeana* (St. Petersburg, 1861).

47. *Histoire des relations de la Russie avec la Chine sous Pierre le Grand* (1689–1730) (Paris, 1912).

48. *Graf Nikolai Nikolaevich Muraviev-Amurskii* (2 vols.; Moscow, 1891).

49. *Bering's voyages* (2 vols.; New York, 1922).

50. *Khronologicheskaia Istoriia vsiekh Puteshestvii v sievernia poliarnia Strany* (St. Petersburg, 1821–23).

51. "Zaslugi Petra Velikago po Chasti rasprostranenii geograficheskikh Poznanii o Rossii i pogranichnikh z neiu Zemliakh Azii," *Zapiski Imperatorskoe-Russkoe Geograficheskoe Obshchestvo*, III (1849), 217–53; IV (1850), 260–83.

52. "Biograficheskoe Sviedenie o Kapitanom Komandirom Vitusie Beringie," *Sievernyi Arkhiv*, No. 4 (1828).

53. *Bering i Chirikov* (St. Petersburg, 1849).

54. *Otkrytie Ameriki* (St. Petersburg, 1839).

55. *Pervonachal'noe Poselenie Russkikh v Amerikie* (Revel, 1833).

56. *Puteshestvie vokrug Svieta v 1803–4, 5, i 1806 Godakh* (3 vols.; St. Petersburg, 1809–12).

57. *Puteshestvie v Iuzhnyi Okean i v Beringoi Proliv* (2 vols.; St. Petersburg, 1921–23; Eng. ed.: 2 vols.; London, 1821).

58. See Giuseppe Torrubia, *I Moscoviti della California* .... (Rome, 1759), and Antonio Fonticelli, *Breve Ragguaglio delle ultime Scoperte fatti dai Russi nel Mar Pacifico* (Genoa, 1790). For an account of Russo-Spanish contacts see C. E. Chapman, *A history of California, the Spanish period* (New York, 1921).

59. *History of the Northwest Coast* (San Francisco, 1884); *History of Alaska, 1730–1885* (San Francisco, 1886); *History of California* (San Francisco, 1885 ff.), esp. vols. I–IV.

60. See n. 46.

61. *Die Russisch-Amerikanische Handels-Kompanie bis 1825* (Berlin, 1914).

62. "Entwickelung der Russisch-Amerikanischen Kompanie," *Acta Soc. Sci. Fenn.* (Helsingfors, 1863), No. VII, pp. 37–101.

63. *Shelekhova pervoe Stranstvovanie s 1783 po 1787 God iz Okhotska po Vostochnomu Okeanu k Amerikanskim Beregam* (St. Petersburg, 1793).

64. See K. T. Khliebnikov, *Zhizneopisanie Aleksandra Andrievicha Baranova* (St. Petersburg, 1835).

65. "Pervoe Puteshestvie Rossiian Vokrug Svieta, opisanny Rezanovim," *Otechestvi Zapiskii*, Nos. X–XII (1822); No. 20 (1823); Nos. 23–24, (1825). See also T. C. Russell (ed.), *Langsdorff's narrative of the Rezanov voyage to Nueva California in 1806* (San Francisco, 1927).

66. See n. 46.

67. *Russkie na Vostochnom Okeanie* .... (Moscow, 1849).

68. *Puteshestvie vokrug Svieta v 1803–06 Godakh* (2 vols.; St. Petersburg, 1812).

69. *Zhurnal pervago Puteshestviia Rossiian vokrug Zemnago Shara* (2 vols.; St. Petersburg, 1816–18).

70. *Puteshestvie vokrug Svieta* .... (2 vols.; St. Petersburg, 1822).

71. See A. P. Sokolov, "Zhizneopisanie Khvostova i Davydova," *Morskoi Sbornik*, No. 9 (1853).

72. *Rossiisko-amerikanskaia Kompaniia* (Moscow, 1865).

73. See n. 46.

74. *Zaselenie Rossa, Kaliforniia* (St. Petersburg, 1859).

75. "Noticias sobre Ross," MSS, 1822 (Bancroft Library). See also S. Fernandez, "Cosas de California," MSS (Bancroft Library).

76. "Russkie v Kalifornii v Nachalie XIX Stolietiia," *Sbornik Statei posviashchennykh P. N. Miliukovie* (Praha, 1929).

77. *Kratkoie istoricheskoe Obrazovanie i Dieĭstvii Russko-Amerikanskoi Kompanii* (St. Petersburg, 1861).

78. "Obzor Russkikh Kolonii v Sievernyi Amerikie," *Morskoi Sbornik*, No. 7 (1862), 19–192.

79. E.g., "Istoricheskoe Ocherk miekhovi Torgovli v Sievernyi Amerikie," *Syn Otechestvo*, No. 10 (1839) (anonymous).

80. "Izviestie o miekhovoi Torgovlie," *ibid.*, Nos. 39, 43–44 (1823). But see more particularly A. Korsak, *Istoriko-Statisticheskoe Obozrienie torgovykh Snoshenii Rossii s Kitaem* (Kazam, 1857), and Kh. Trusevich, *Posolskiia i Torgoviia Snoshenii Rossii s Kitaem* (do XIX v) (Moscow, 1882).

81. "Opushnyk Tovarakh Sieverno-Amerikanskikh Rossiiskikh Vladenii," *Teleskop*, No. 27 (1835).

82. "Russian-American relations during the Crimean War," *American historical review*, XXXI (1925), 462–76.

83. "Mining in Alaska before 1867," *Washington historical quarterly*, VII, 233–38.

84. *A view of Russian America in connection with the present war* (Montreal, 1855).

85. *Early diplomatic negotiations of the United States with Russia* (Baltimore, 1906).

86. *Die Beziehungen zwischen Russland, England, und Nord-Amerika im Jahre 1823* (Berlin, 1911).

87. *The Monroe Doctrine, 1823–26* (Cambridge, 1927).

88. *Russo-American relations, 1815–1867* (Baltimore, 1930). See also E. A. Adamov, "Documents relating to Russian policy during the American Civil War" (*Journal of Modern History*, II, No. 4 [December, 1930], 603–11).

89. *The background of the purchase of Alaska* (Seattle, 1922).

90. *Purchase of Alaska* (Baltimore, 1886).

91. *American relations in the Pacific, 1784–1900* (Baltimore, 1901).

BIBLIOGRAPHICAL GUIDES FOR THE STUDY OF ENGLISH[1]

By ARTHUR G. KENNEDY

FOR at least a quarter of a century I have been compiling bibliographies for the facilitating of my own work as a student and teacher of English, and for half as many years I have been attempting to instruct graduate students in the bibliography and methods of English study, even venturing to offer the general public a bibliography of writings on the English language. And while I have been aware of the danger of undertaking to define the word "bibliography" too closely, knowing that it is susceptible of a variety of interpretations and limitations ranging from "the science which treats of books, their materials, authors, typography, editions, dates, subjects, classification, history, etc.," to a very concrete "classified list of authorities or books on any theme"—note the discussion that found a place in the *Literary supplement of the London times* two years ago[1]—I have come to the writing of this paper with some degree of confidence that I could keep within the bounds of safety, having, as I supposed, protected myself by wording the title of the paper "Bibliographical guides for the study of English." But as I have begun to survey the history of the growth of bibliography in the field of activity with which I am primarily concerned, the study of the English language and literature, I have found that I am still far from a final definition

[1] The superscript numbers, although not consecutive, scattered throughout the text refer to a numbered chronological bibliography which will be found at the end of this article. It is hoped that the arrangement of all the bibliographical works referred to in this paper in a single chronological sequence will show the growth of the bibliography of English more clearly than it may appear in my discussion of types and developments.

of the term and very much in sympathy with that most original humorist and thinker who remarked a few days ago in his front-page letter to the American public, "You give me a chance to write my own dictionary and make a word mean anything I want it to and I will show you some English." In my own case, I am not at all sure just what I should want the word to mean, there are so many and such varying purposes to which a bibliography of English can be applied. Perhaps the best that I can do under the circumstances is to leave the matter of definition somewhat vague and in the course of my discussion present the types of bibliographical guides that have been found useful by the student of English. In this way it will be possible to include in my survey of English bibliography the various works that have contributed to the growth of scholarship and teaching in the field of English.

Like the tools or apparatus of every other line of scholarly and scientific research, the bibliographical guides for the student of English have been increasing tremendously within the last decade or two. Indeed, that same desire for efficiency and clarification which has characterized human advancement in the twentieth century has impelled the student of English to compile bibliographies which will save him the expenditure of time and effort necessary to wade through the earlier publications on the subjects with which he happens to be concerned. Probably 90 per cent of all the special bibliographies dedicated to the study of English have been published since the year 1900. Certainly the half-century from 1880 to 1930 has seen the publication of every bibliography for the study of English of any consequence at all. It is true that certain works, such as Robert Watt's *Bibliotheca Britannica*,[4] published in 1824, and *The bibliographer's manual of English literature*,[5] first published by William T. Lowndes in 1834, aimed at helping the student of English literature. But the scope of those early bibliographies was much greater than English literature as it is now defined.

And the student's interests were likewise broader than they are likely to be today. For the study of English in colleges and universities was a comparatively slight and unimportant thing a century ago, being limited for the most part to grammar. English philology was in its very early infancy at that time, and literature was for the leisure of gentlemen and the enjoyment of critics and not to be very seriously taught to college students as it is today. So there was little need of bibliographical guides for the study of English until well past the middle of the nineteenth century.

In both England and Germany groups of scholars became very active in promoting the study of the English language and literature during the second and third quarters of the last century, especially, and the result of their activity was a remarkable growth in the output of literary texts and philological studies. Even earlier the Roxburghe Club had initiated that splendid series of texts which at the time of its centenary in 1914 numbered at least one hundred and fifty volumes. Moreover, the Bannatyne Club (Vol. I, 1823), the Maitland Club (Vol. I, 1828), the Abbotsford Club (Vol. I, 1835), the Surtees Society (Vol. I, 1835), the Camden Society (Vol. I, 1838), the Parker Society (Vol. I, 1840), the Percy Society (Vol. I, 1840), and others of a similar nature already had to their credit by the middle of the century a goodly array of published texts. It needed only a little more enthusiasm on the part of a group of members of the Philological Society of London to set in motion work on the great *Historical English dictionary* and in its train the organization of the Early English Text Society, the Chaucer Society, the Ballad Society, the Wyclif Society, the English Dialect Society, the Browning Society, the Scottish Text Society, the Shakespeare Society, the New Shakspere Society, and others almost too numerous to mention. The Early English Text Society alone has the proud distinction of having made available for the study of English since the beginning of its

first series in 1864 until this year of 1930 over three hundred volumes of texts and studies.

In Germany, in the wake of the brothers Wilhelm and Jacob Grimm, there came to the study of Germanic philology, and frequently to English philology in particular, a body of earnest and enthusiastic scholars such as Christian W. M. Grein, Richard P. Wülker, Max Kaluza, Franz H. Stratmann, Julius Zupitza, and Bernhard ten Brink, who promoted to such an extent research in English philology that the English philologist, Henry Sweet, finally remarked in his Preface to *The oldest English texts*, published for the Early English Text Society in 1885, that it had become "too evident that the historical study of English was being rapidly annexed by the Germans, and that English editors would have to abandon all hopes of working up their materials themselves, and resign themselves to the more humble rôle of purveyors to the swarm of young programmongers turned out every year by the German universities." Indeed, the German scholars working in the field of English philology not only did a large part of the work of putting the study of Old and Middle English on a sound scholarly basis, but for a long time the only truly scholarly philological journals devoted exclusively to the study of English were *Anglia*, founded in 1878, and *Englische Studien*, one year older. Some of the best of the earlier bibliographical guides, such as Johan Storm's *Englische Philologie* (Heilbronn, 1881)[22] and Gustav Körting's *Encyklopädie und Methodologie der englischen Philologie* (Heilbronn, 1888),[34] were evoked by this strong interest in the study of English philology in Germany last century.

Perhaps one of the clearest indications of the relative lateness of scholarly research in English philology is the fact that a tabulation of linguistic studies of Anglo-Saxon authors and literary monuments shows that out of two hundred and forty such works noted only six were published prior to the year 1880.

But it is not only the great increase in the number of texts, critical and historical books, and doctoral dissertations that has driven the student of English more recently to compiling bibliographical guides so that he can find his way through the growing mass of philological and critical publications. The multiplication of learned journals devoted to the study of English or some phase of it during the past fifty years is remarkable. Of a hundred periodicals that I have occasion to use commonly in my work, only a fourth were founded earlier than 1880, and some of those only two or three years before that date. Of some fifty-six series of studies, such as the "Yale studies in English," Hoops's "Anglistische Forschungen," or the "Tracts" of the Society for Pure English, just one was begun before the year 1880, and only twelve earlier than 1900. The scholar who was active in the eighties of last century might well expect to read leisurely the few learned journals that catered to his special interests, and if he possessed a reasonably good memory, he might trust to his memory for the bibliography of any particular subject that he might have occasion to work up later. The haphazard method of gathering bibliographical materials was still fairly satisfactory as late as 1900. For the older scholars had grown up with their subjects, so to speak; they had followed the development of certain lines of research in the increasing files of contemporary periodicals and books and their learning was the result of a more comfortable and leisurely growth. Today the young scholar must take cognizance of a great mass of published matter, more or less learned and more or less useful, before he dares to venture into the detailed study of any subject in his field. He must, in other words, be a fairly able bibliographer.

The intensive study of the English language and literature has, of course, resulted in that same specialization which is to be observed in all other university work today. The individual is most regrettably forced to narrow down in his interests and in his research until he becomes known sooner or later as a phonetician or a teacher of composition, a Chaucer or Shake-

speare or Milton or Browning student, an Anglo-Saxon or Elizabethan scholar, a teacher of speech, etc. And even with all his specialization he is hard put to it to keep up with the current scholarly output in his special line. The amount of publication centering about Chaucer, for example, in the past two decades is quite astounding. Hardly a number of any one of two dozen philological journals has appeared within that period of time without at least one article devoted to Chaucer. In a fairly exhaustive bibliography on "The correction of speech defects"[185] which appeared in *American speech* last year, only about 8 per cent of the titles bore dates earlier than 1900. For the relief of students working in various parts of the field of English we are being forced to publish Middle English, Renaissance, eighteenth-century, and Victorian bibliographies year by year, as well as Chaucer and Shakespeare and Spenser and various other bibliographies. We can't afford not to.

It is interesting to note the various steps in the growth of bibliographical compilation for the student of English, and likewise it is interesting to observe the forms that bibliographies have taken as they have been adapted to the needs of different periods in the history of the development of the study of the English language and literature. Until the middle of the nineteenth century the bibliographer, like the lexicographer, was generally content with gathering his materials in his spare moments. Probably, in most instances, he built upon the work of his predecessors, just as Samuel Johnson used Nathan Bailey's dictionary as a check when he compiled his own. But there is no evidence that the earlier bibliographers worked systematically and efficiently in collecting their material. Nor do the bibliographies of such men as Watt (1824),[4] Collier (1865),[11] Hazlitt (1867, 1876),[15, 21] or even Allibone (1871),[16] give evidence that the compilers had carefully worked out methods and rules of procedure to insure their finding all the materials available at the time.

With the gradual development of subject bibliographies after

the middle of last century, English received its share of attention in those more general compilations intended for the comparative philologist, on the one hand, and the reference librarian, on the other. In Bernhard Schmitz's *Encyclopädie des philologischen Studiums der neueren Sprachen* (1859–64),[7] and Hermann Paul's *Grundriss der germanischen Philologie* (1891–93),[38] particularly, much valuable help has been rendered to the student of English. If the specialist in English is likely to feel somewhat disappointed in the superficial offering or in the judgment displayed in the choice of references for English in such works as Sonnenschein's *Best books* (1887),[33] *The "A.L.A." Catalog* (1893),[40] Kroeger's *Guide to the study and use of reference books* (1902),[60] Mudge's *New guide to reference books* (1923),[124] or Godet's *Index bibliographicus*,[145] published for the League of Nations Committee on Intellectual Coöperation in 1925, it is not to be wondered at since the reference librarian is by no means omniscient and the general reference guide must be kept within reasonable bounds physically. Indeed, that ideal list of references for the specialist in English, concise and all comprehensive and sound, is not likely ever to materialize since no two scholars will agree in their preferences and tastes when it comes to selecting one or two outstanding works of reference for each phase of the study of the English language and literature.

One of the earlier forms of bibliographical compilation is that methodical arrangement of references by subjects which has proved very useful to both student and teacher of English since it lays out the field of English study in a neat and workman-like survey at the same time that it introduces one to the outstanding books and studies needed in each subdivision. I refer to such works as Johan Storm's *Engelsk Filologi* (1879),[22] Karl Elze's *Grundriss der englischen Philologie* (1887),[31] Gustav Körting's *Grundriss der Geschichte der englischen Literatur* (1887),[32] Tom Peete Cross's *List of books and articles, chiefly bibliographical* (1919),[101] Schücking and Ebisch's *Grundlinien einer Bibliogra-*

phie zum Studium der englischen Philologie (1927),[164] and Arundell Esdaile's *The sources of English literature* (1928).[168]

The very general tendency today to append bibliographies to books and studies dealing with English shows how far the scholar has come during the past fifty years in his appreciation of the need for such lists. If one searches through the texts and critical studies published prior to 1880, he will find almost no bibliographies. If I am not mistaken, the first edition of *Beowulf* equipped with bibliographical apparatus is of the twentieth century; certainly Skeat's great edition of Chaucer published in 1894 has no general bibliography; his edition of *Piers Plowman* of 1886 has none; and seldom was an edition or study of Shakespeare accompanied by a bibliography before 1900. It is true that a certain amount of bibliographical matter was incorporated in the notes of such works as Hazlitt's edition of Warton's *History of English poetry* (1871) and Ewald Flügel's *Neuenglisches Lesebuch* (1895). But there was, apparently, little thought that the reader might desire to know of other writings on the subject involved which he could hunt up and make use of. And many scholars seem still to lack a clear conception of the purpose of the bibliography, if one may judge from the very scanty entries that are given. In the *Cambridge history of English literature*,[71] for example, published as late as the years 1907–1914, while very full lists are given by chapters in the back of each volume, the inadequate entries are careless and irritating, to say the least. Such an entry as "Baldwin, C. S. Modern Language Association of America, June, 1904" could have been made clear and exact with no expansion whatever. And I must confess that I can see no real advantage in separating the bibliography that belongs with a chapter of text as far from that chapter as the volume will permit. My one serious criticism of that most excellent and useful work by J. E. Wells, *A manual of the writings in Middle English* (1916 ff.),[98] is that the author has not placed the chapter bibliographies at the ends of the

chapters where they belong instead of forcing the reader to look in two different parts of the book for complete information. So useful and classic a book as Gaston Paris' *La littérature française au Moyen Age* (4th ed., 1909) has always seemed to be in need of this same bringing-together of the two parts that properly belong together. These books are so often referred to that it should be made possible for one to use them with a minimum of searching about.

There is a type of bibliographical guide which by means of a chronological arrangement of entries along with some brief critical discussion gives not only the desired bibliographical information but also presents a history of scholarship in the field covered by the bibliography. A good example of this is Richard Wülker's *Grundriss zur Geschichte der angelsächsichen Literatur* (1885).[29] The arrangement is systematic according to subjects, and under each head the entries are arranged chronologically with some extensive discussions and analyses. Very much shorter and more selective is H. M. Ayres's *Bibliographical sketch of Anglo-Saxon literature* (1910),[78] originally planned for class work in Columbia University. My own *Bibliography of writings on the English language* (1927)[159] is also for the most part chronological in arrangement. It makes no effort to discuss the books and articles entered, but by the very arrangement of the entries it provides an index to the history of scholarship in the English-language study.

It is a question how far a bibliographical guide should go in attempting at the same time to give the history of English philology and criticism in this way. I recall a course in *Beowulf* given by a scholar who spent so large a part of the term in developing in a critical manner the bibliography of the subject that the class had time to read very little of that fine old piece of English literature. It was a splendid survey of Beowulf scholarship, but after all there might reasonably be some disappointment on the part of those who entered the course with

the expectation of reading *Beowulf*. While I admit that I have a strong predilection for this historical type of bibliography, there are times when it is likely to incumber rather than facilitate the seeker after bibliographical guidance. Probably, as a rule, it is better to make the history of scholarship bibliographical rather than attempt to divert the bibliography from its main purpose by forcing it to serve the philological historian.

This, it should be noted, has been done most successfully by Caroline F. E. Spurgeon for Chaucer in her laborious and most useful three volumes entitled *Five hundred years of Chaucer criticism and allusions*,[89] published in final form in 1925, and by C. M. Ingleby for Shakespeare in his *Shakespeare's centurie of prayse* (1874; 2d ed. by Lucy Toulmin Smith, 1879),[18] and also by F. J. Furnivall and others in *Some three hundred fresh allusions to Shakspere* (1886).[30] While the first of these collections was made for the Chaucer Society and the others for the New Shakspere Society, students of the history of English literary criticism are gradually waking up to the importance of this kind of bibliographical guide as a useful aid in following the trends of literary criticism in the various stages of English literary scholarship, and it is likely that in the next few years numerous others will be undertaken by students who are interested in studying the attitude of critical writers at various times toward the great English authors. We are no longer satisfied to know merely what our contemporaries think about a given English author, but we wish also to know what earlier generations of critics have thought and said about him. Indeed, if I am not mistaken, the tendency at present in the writing of histories of English literature is more and more to base such writing on the first-hand evidence gained through the use of these bibliographical guides.

What might be called the "periodic survey" has become quite common in the field of bibliographical criticism. A scholar gathers up the output of a few years, perhaps of a decade, in a

part of the field with which he is particularly familiar and appraises it. This is, as a rule, of little permanent value because it is too limited in its scope to do more than call passing attention to the publications. Perhaps it may be said to derive from that kind of learned and cumulative review so familiar to readers of certain British review journals such as the *Quarterly review* and the *Edinburgh review* in which the reviewer gathered together a number of recent publications on some subject of special interest to him. Examples of this kind of periodic survey are Bernhard Schmitz's *Die neuesten Fortschritte der französisch-englischen Philologie* (1866–69),[14] Richard Bethge's *Ergebnisse und Fortschritte der germanistischen Wissenschaft im letzten Vierteljahrhundert* (1902),[59] Johannes Hoops's *Englische Sprachkunde* (1923),[123] Morgan Callaway's *Recent works in the field of English linguistics* (1929),[182] and Kemp Malone's "Some linguistic studies of 1928,"[188] or those numerous appraisals of Chaucer literature that have come from the pen of John Koch periodically since about 1882.[26]

For the scholar who is interested not only in having at hand bibliographies in which he can find information at a given time, but who is also desirous of having a continuous bibliographical guidance which will enable him to keep posted on the current publications in his chosen field, serial or periodical bibliographies are becoming increasingly important. For many years almost the only serial bibliography which dealt with English ambitiously was the *Jahresbericht über die Erscheinungen auf dem Gebiete der germanischen Philologie*,[23] founded in 1880 and published annually ever since. It is true that English received only minor consideration in the yearly volumes of the *Jahresbericht*, but the sections devoted to English have always been so thoroughgoing and helpful that every student of Early English must take cognizance of it. Since 1898 Swedish scholarship has been recorded in an occasional *Aperçu bibliographique des ouvrages de philologie romane et germanique*[50] which has appeared

in connection with the Stockholm "Studier i modern Språkvetenskap." For some years prior to 1922 Albert C. Baugh had been publishing the *American year-book*, a very condensed appraisal of the year's publications relating to the English language and literature. In 1922, after the suspension of publication of the *Year-book*, this bibliography was taken over for publication in the *Publications of the Modern Language Association of America* and has expanded and grown in importance with each succeeding year.[113] In 1921 the English Association of Great Britain began under the editorship of Sir Sidney Lee the publication of an annual bibliographical survey known as *The year's work in English studies*.[109] This serial attempts to give each year an estimate of the scholarship expended on the study of English, and of course does not pretend to be exhaustive. The most exhaustive and by far the most important serial bibliography for the student of English is the *Annual bibliography of English language and literature*,[111] which has been edited for the Modern Humanities Research Association with growing success and usefulness since 1921.

Of course various journals devoted to English have run bibliographical departments. Notable in this respect are the *Review of English studies*, founded in 1925, and the Dutch bimonthly, *English studies*, which has been published since 1919 and which must not be confused with the German pioneer, *Englische Studien*, first published in 1877. Quite recently there have come into prominence annual bibliographies dealing with certain limited portions of the field of English study. In 1923 James F. Willard, of the University of Colorado, began a series of annual reports entitled "Progress of medieval studies in the United States of America,"[129] which has been very useful to students of medieval English and which has helped to put the bibliography of English one step farther along inasmuch as it has always devoted much space to the work in progress both by mature scholars and by students working on dissertations

for advanced degrees. Since 1913, it is true, the Library of Congress has been publishing annually a list of *American doctoral dissertations*. But since of late this list has been coming out two years after the printing of the dissertations, it has become increasingly important for graduate students that they should have some way of finding out what dissertation subjects are being worked on in American graduate schools. At first this bulletin was published as an independent contribution on the part of the author and his university, but after the founding of the Mediaeval Academy of America in 1925 the bulletin was aided by the Academy also.

In about the year 1922 the editors of *Studies in philology*, published at the University of North Carolina, began to devote one quarterly issue to Elizabethan studies and to each collection appended a bibliography of "Recent literature of the English Renaissance"[114] which was taken in charge by Professor T. S. Graves and gradually amplified until at the time of his death in 1925 it had become one of the outstanding period bibliographies in the field of English study. Since Professor Graves's untimely death this bibliography has been carried on with increasing success by my Stanford colleague, Hardin Craig, and is today indispensable to all Renaissance scholars. In 1926 Ronald S. Crane began to publish annually in the University of Iowa *Philological quarterly* a current bibliography of "English literature of the Restoration and eighteenth century,"[153] which has likewise become of increasing usefulness to students of later English literature. When, in 1926, the editors of *Studies in philology* brought out the second series of "American studies," Ernest E. Leisy added "Materials for investigation in American literature,"[156] which he stated was a report compiled for the American literature group of the Modern Language Association. In 1929 this group of scholars founded a new quarterly, *American literature*, and Professor Leisy transferred his bibliographical contributions to the new journal which is fostering this

work in the bibliography of American literature studies. And, finally, it might be added that the author of this paper has been acting as bibliographical editor of *American speech* since its first issue in 1925, giving in each issue a fairly comprehensive list of reviews and brief notices of current publications of a linguistic character, chiefly.[147]

From time to time the bibliography of more limited subjects has been brought up to date by the publication of well-considered lists. Martin Ruud, of the University of Minnesota, has contributed at various meetings of the Chaucer group of the Modern Language Association of America yearly lists of Chaucer publications; in each annual number of the *Jahrbuch der Deutschen Shakespeare-Gesellschaft*[12] an extensive bibliography is provided; a number of students of phonetics have surveyed the current output from time to time, as, for example, Hermann Breymann in *Die phonetische Litteratur von 1876–1895: Eine bibliographische, kritische Übersicht* (1897),[48] and Smiley Blanton in "A workable bibliography for the beginner in speech correction" (1924).[130]

And not without its value for the student of English who wishes to keep always posted on the current output of scholars is that type of serial bibliographical guide which might well be termed the *Anzeiger* type. For many years certain German scholarly journals have published, either as a part of the regular volume or else separately, an *Anzeiger* which usually consisted of a collection of reviews of works of interest and importance to the readers of the journal. The *Anzeiger für deutsches Altertum*,[19] while it has its separate volume numbering and pagination, is a supplement to the *Zeitschrift für deutsches Altertum*. Similarly, the *Anzeiger für indogermanische Sprach- und Altertumskunde* is published as a supplement to *Indogermanische Forschungen*.[39] The editors of that splendid old journal, *Anglia*, have pursued a varying policy in this respect. In various early volumes they have included a *Bücherschau* which has contrib-

uted usually just the titles of current publications on English. An *Anzeiger* devoted to reviews accompanied Volumes IV–XII, beginning in 1881.[24] In 1890 Ewald Flügel, associate editor of *Anglia*, established the *Beiblatt zur Anglia*,[36] which has pursued its course through more than forty volumes, offering each year a body of well-considered reviews of a great variety of writings in English philology. We owe much of our bibliographical enthusiasm at Stanford to the efforts of this early head of the department of English philology, and our contacts through him with *Anglia* and its famous bibliographical offspring have always been a source of pride and satisfaction to us.

From very early in its career the Germanic *Jahresbericht*[23] which I have already mentioned attempted to list reviews of the books and articles that it included. But until recently this practice has not been followed very widely by compilers of bibliographies for the student of English. Undoubtedly the attempt to find all pertinent reviews nearly doubles the work of compilation, and this may account in part for the fact that so few bibliographers have included them heretofore. But it is also true that in the earlier stages of bibliographical productivity it was still possible for the compiler to read most of the books entered and write his own appraisals of them. It is only quite recently that the scope of a special bibliography has become widened so much that the bibliographer can no longer find time or space for critical discussions of his own. In my own *Bibliography of writings on the English language* (1927)[159] I have made a special effort to include all important, and even some unimportant, reviews. And more and more attention is being paid to the review as an important element in any complete collection. Not only can references to several reviews of a new book be made in less space than an adequate appraisal of the book by the bibliographer himself, but the student who may be interested in a book sufficiently to take the trouble of looking up the reviews undoubtedly gets a fairer and more satisfac-

tory notion of the value of the book when he can read the reviews of several scholars. Moreover, some reviews are of more value than the books reviewed since an able scholar not infrequently takes advantage of the opportunity to contribute valuable matter pertaining to the general subject of the book reviewed. And for a student who may be stranded in some small college, far from a large library and with little money available for the purchase of new books, this is a protection against ordering unprofitable books, in the dark. I cannot stress any too much, it seems to me, the importance of including references to all available reviews in an up-to-date bibliography.

In the past the library catalogue has been a useful aid to the student of English. But now, with the exception of a few which are limited to collections of English literature, such as Corser's *Collectanea Anglo-poetica*,[8] published under the auspices of the Chetham Society from 1860 to 1879, and the more modern and vastly more useful *Check-list or brief catalogue of the Library of Henry E. Huntington* (1919),[102] which was limited to English literature down to 1640, I doubt whether one scholar in a thousand pays much attention to library catalogues outside of that of his own university library and perhaps the union card catalogue usually built upon a foundation of Library of Congress offerings, or, possibly, the printed *Catalogue of the British Museum*. It is the compiler of a bibliography who must search through the catalogues of all the great libraries and some of the smaller ones, too, and gather those numerous facts relating to dates, editions, publishers, etc., of the early printed books that come within the province of his work.

There is, however, one exception to this general indifference on the part of specializing scholars to general library catalogues, and that is with respect to catalogues or bibliographies of special library exhibits, or collections gathered by organizations and individuals. I refer to such publications as Kittredge's *Landmarks in the history of English grammars . . . . with illus-*

trations from the collection of George A. Plimpton (1906),[67] *An exhibition of books illustrating the history of English dictionaries held in the Bodleian Library at Oxford to celebrate the completion of the "Oxford English dictionary"* (April, 1928),[173] E. M. Thompson's *Wycliffe exhibition in the King's Library* (British Museum, 1884),[28] Anna M. Monrad's *Catalogue of an exhibition of books, portraits and facsimiles illustrating the history of the English translation of the Bible* (Yale, 1911),[84] and the *Cardiff public libraries Bible exhibition* (1911).[81] Even these, nevertheless, are doomed to have in time to come only a local and transient interest since the more nearly exhaustive bibliographies of the subjects involved as they appear will largely render these useless.

I have not expressed an opinion yet on the comparative merits of the alphabetical arrangement as compared with the systematic and chronological, because I have not wished to interrupt the expression of my opinions on certain other important matters. But it is evident to any thoughtful bibliographer, I believe, that while some types of bibliography clearly call for alphabetical arrangement, for the most part it is better to classify the entries and under each separate heading to arrange them chronologically. It is obvious that in such a bibliography as Clark S. Northup's very valuable *Register of bibliographies of the English language and literature* (1925),[149] only an alphabetical arrangement could be used. But I have sometimes wished that under each heading the entries were arranged in chronological order rather than alphabetically by authors since it is a reasonable presumption that a late book or compilation will usually have been built on the works that have gone before. So one prefers to start with the latest and freshest utterances on a subject and work back if necessary rather than take them at haphazard. The chronological arrangement, moreover, renders any fairly exhaustive bibliography a usable index to the history of scholarship in the subjects involved. And if English literature is arranged in this manner, the student is helped to re-

member the sequences of his subject. Of course it is a somewhat dangerous and difficult undertaking for a bibliographer to attempt a fixed chronology of the earlier literature since dates are often poorly established for the earlier writings of England, and Wells, in his *Manual of the writings in Middle English* (1916),[98] did well to arrange his book systematically by authors and literary forms only. But such collections as Arber's *Transcript of the registers of the Company of Stationers of London* (1875–79)[20] and G. E. B. Eyre's continuation of the *Transcript* (1913–15),[88] which together cover a period of English publishing from 1554 to 1708, are very helpful guides for the literary historian.

Of course bibliographies of bibliographies are a comparatively late innovation in bibliography-making. But for several decades increasingly valuable guides of this kind have been appearing. In 1898 Alice Newman published an "Index to subject bibliographies in library bulletins to December 31, 1897"[51] in the *State Library bulletin* of the University of the State of New York which should be noted by students of English, in passing, as reference librarians and other bibliographers have been contributing many useful special bibliographies through the medium of the various library bulletins, and occasionally one appears which is of exceptional value for the study of some part of the field of English bibliographies of dialect literature, current drama, current verse, Scottish literature, etc. In 1901 Aksel G. S. Josephson published his *Bibliographies of bibliographies* in the "Contributions to bibliography" of the Bibliographical Society of Chicago, and this was re-edited in 1913 for the *Bulletin* and the *Papers of the Bibliographical Society of America*.[55] In 1925 Marcel Godet edited for the Committee on Intellectual Coöperation of the League of Nations an *Index bibliographicus* or *International catalogue of sources of current bibliographical information*[145] relating to both periodicals and institutions. This shows a praiseworthy ambition, but the portion

devoted to the study of English is rather sketchy and it is probably but fair to assume that the work was not intended for specialists of advanced scholarship but merely as a preliminary intellectual key for those who would penetrate the realm of international culture. The real climax in the making of books that list bibliographies useful to the student of English is that indispensable *Register of bibliographies* by Clark S. Northup (1925) to which I referred above.[149] For many a student of English entering upon the study of a special subject this book is, as a matter of course, the first port of entry.

Until quite recently compilers of bibliographical guides for the study of the English language and literature have been largely interested in giving as nearly complete lists as possible rather than highly selective bibliographies. This was natural as long as the material was not too extensive. Of course a great many superficial articles in the general magazines, out-of-date textbooks, and antiquated works were ignored even in the more ambitious bibliographical guides. But there has not been the need for such careful selection and drastic limitation as we are now coming to face in the preparation of a working bibliographical guide. Under the haphazard method of bibliographical collecting and with the comparatively limited amount of material to be included, the bibliographer was not confronted with the problem of selection as we are now. For long, there was but one Shakespeare grammar, one outstanding and only too often out-of-print edition of many an Elizabethan dramatist's works, only the Early English Text Society's edition of certain early texts, only one or two great dictionaries from which to choose. Now it requires a nice discrimination to build up a working library for any phase of English study which shall have few duplications and yet cover well the entire subject. Since the completion of my would-be exhaustive *Bibliography of writings on the English language* (1927), I have occasionally worked with a graduate class in an endeavor to select an ideal list of reference works

for the specialist in English, and many have been the problems that have arisen. Two histories, for example, written by scholars with different tastes and interests and obsessions cannot be easily compared, and one eliminated; not infrequently the treatment of a special and limited subject in a distinct publication is inferior to a well-expanded chapter in a general work; and often the contents of two works, such as Krapp's *Comprehensive guide to good English* (1927) and Fowler's *Modern English usage* (1926), vary so much that the two books become mutually complementary.

Several attempts have been made at providing the student of English with a working collection, notably, in Andrew Keogh's *Some general bibliographical works of value to the student of English* (1901),[56] a *Bibliography of high-school reference books*[63] (published at the University of Colorado in 1903), a "Bibliography of recent books on the subject, and lists of texts and editions" in H. C. Wyld's *Short history of English* (1914),[90] and *A reference library: English language and literature*,[103] first published by the English Association in 1920.

Of course there are those works dealing with "the science which treats of books, their materials, authors," etc., which the historically minded student of English literature finds indispensable for his work. Probably for many a present-day student of English literature two books, in particular, will stand out so prominently that there will be little occasion to resort to the earlier treatises. I refer to Ronald B. McKerrow's *Introduction to bibliography for literary students* (1927)[162] and Van Hoesen and Walter's *Bibliography, practical, enumerative, historical: An introductory manual* (1928).[179] I shall not discuss this type of bibliographical guide because the matter involved is of a more general kind than that comprehended in the majority of guides that I have referred to heretofore and furthermore the student of English literature will find much useful material in books that have been written for the assistance of scholars working in

other literatures than English. Moreover, this phase of the subject is so much the business of the general bibliographical student and librarian that I should hesitate to enumerate and distinguish those bibliographical works most likely to prove of outstanding importance, aside from the two already mentioned.

In concluding an analysis and classification of bibliographical guides for the study of the English language and literature, after noting the steps that have been taken in bibliographical compilation in this special field of scholarly endeavor, and after seeking to determine what different purposes have been and, perhaps, should be served by these various guides, almost the only conclusion that one can safely draw is that no one bibliographical guide can be expected to do all of the things for the specialist in English that have been enumerated. There will always be need of a variety of bibliographical guides, each contributing to the study of English in its own peculiar way.

An examination of my recently published *Bibliography of writings on the English language* (1927), to which I shall, perhaps, be pardoned for referring so frequently on the ground that it represents in its plan and make-up my best thought and most earnest convictions on the subject of bibliographical guides—an examination of this book will show, I say, that I have arrived at certain conclusions and possess certain prejudices which have had marked influence on the book. I have felt that a systematic arrangement of material, if kept simple enough, might suggest to the user method for his study of the subject. I have selected the chronological arrangement under the various headings in order that the historically minded might find each subdivision an index to the history of the study of that particular phase of English philology and at the same time the student of current English could turn to the end of the list and work back until he found the best work for his immediate purpose. I have included such reviews as I could find in lieu of critical discussions of my

own because it saves space and provides a broader and more varied range of critical opinion, hence a safer critical guidance for the user of the bibliography. And I have, in an endeavor to make an exhaustive collection, included much material that the ordinary user of the book would have little regard for, because I have felt that for every important part of the field of English study there should be one fairly exhaustive bibliography which could be regarded as reasonably final for the present and kept so by the future addition of supplements or an occasional re-editing.

I shall, in the several sections of this paper that are to follow, endeavor to show what, in my opinion, the bibliographical needs are for the study of the English language, for the study of constructive English, for the literature of England, and for the working-up of the cultural backgrounds of that literature, and at the same time appraise those bibliographical guides that are now available, indicating in passing the more urgent needs of English bibliography. The time has come, I believe, when every specialist in English should be familiar with the bibliographies that we have and assist in the promotion of work on those that we still need.

And that I am only one of many who believe strongly in the need of expert bibliographical guidance for the younger student of English who is planning to carry on intensive graduate work in the subject is manifest to anyone who will take the trouble to scan the graduate curriculum of any of the English departments of the larger American universities. Each offers its course in bibliography and methods to assist the beginner in graduate study in English. When I offered my course for the first time at Stanford in the fall of 1916, very few departments had such a course as yet. Since that time it has become a regular offering in almost every institution of importance in which graduate work in English is stressed. In the case of Professor

Cross's course at the University of Chicago, it has even given us an important bibliographical guide as an outgrowth of the class syllabus.

It is, to be sure, as an introduction to methods of carrying on research and graduate study that such a course is chiefly stressed by most graduate teachers. But not the least important among these methods is that of finding adequate bibliographical guides, both guides that will direct the student promptly to the materials that he happens to need at the moment for some particular piece of research and also guides that will enable him to keep in touch with the current scholarly output in his chosen field of work. And it is not easy to select for these two different purposes a complete set of bibliographical guides that will enable the student of English to dip quickly and without waste of time into any part of the field of study and find the best materials for his work.

Of course the most difficult of his searches will be for that ideal general compilation which will cover the entire range of English study wisely and thriftily. Until quite recently the student would have searched in vain for such guides. Works like Storm's *Englische Philologie* (1881)[22], Elze's *Grundriss der englischen Philologie* (1887),[31] and Körting's *Encyklopädie und Methodologie der englischen Philologie* (1888)[34] would, of course, be too badly out of date for his purposes; books like Keogh's *Some general bibliographical works* (1901)[56] and Vocht's *La langue, la littérature et les écrivains anglais* (1917)[99] and the English Association's *Reference library* (1920)[103] would prove too concise for all general purposes; and the portion devoted to English in those very ambitious compilations like Sonnenschein's *Best books* (1887)[33] and the *A.L.A. catalog* (1893)[40] would likewise prove inadequate for the specialist in English. But with the publication of Northup's splendid *Register of bibliographies of the English language and literature* in 1925,[149] the need for a general guide has been met in what is undoubtedly

the only satisfactory and practicable way. For the writings on the English language and literature have become so numerous that it would require not a little courage to attempt to select a list that would cover the whole field of English study without unnecessary duplication and yet in such detail and variation as to meet the needs of all who might use it. I have already commented on the difficulty of making such a bibliography for the study of the English language; how much more difficult would it be now in this present year to make such a selection for the whole range of English studies! It is true that the Modern Humanities Research Association is offering annually a most exhaustive bibliography on the *English language and literature*[111] which has run to nine annual volumes, each superior to the preceding. But it would require one fairly expensive volume to contain even the materials comprised in these nine, to say nothing of all the writings on the subject that appeared before the year 1920. In other words, the writings on the English language and literature have become so varied and so numerous that it would be very hard—perhaps impossible—to make a complete, comprehensive selection of titles that would prove generally satisfactory to English scholars, and even more difficult to compile an exhaustive one. So Northup's *Register*, at the richness and minutely accurate detail of which I marvel constantly, seems to be the sensible solution of the problem. Of course we all find some topic missing, now and then, that we would have included, we think. But time will undoubtedly evoke fuller editions of the book as it becomes necessary to bring it up to date from time to time, and it will grow more and more important for the student of English. There are, of course, various serial publications that the English student needs to assist him in his bibliographical researches. The *Beiblatt zur Anglia*,[36] a development of the earlier *Bücherschau* of the German pioneer, *Anglia*, gives each year a wealth of material although it does not attempt to cover the whole field in minute detail. The annual

survey called *The year's work in English studies*,[109] already commented upon, is important, and the student will, of course, take cognizance of the bibliographical matter in those periodicals devoted especially to English, notably the German *Englische Studien* (begun 1877), the *English journal* (begun in 1912 under the auspices of the American National Council of Teachers of English), the Dutch *English studies* (begun in 1919), the French *Revue anglo-américaine* (begun 1923), and, last of all to take up the work, the British *Review of English studies* (founded 1925).

With all the interest that has been manifested in the study of English philology by scholars in England as well as so generally in Germany and more recently in the United States, it is surprising that no very ambitious bibliography of writings on the English language was undertaken until very recently. It is true that certain phases of the subject have received bibliographical treatment, notably dialect study in Patch and Menner's "Bibliography of Middle English dialects" (1923),[125] and in bibliographies by Smith (1839),[6] Skeat *et al.* (1873–77),[17] Sparke (1907),[70] and others on English dialect literature, in the various issues of *Dialect notes* (1890 to date) for American dialects, etc. In 1896 Chase published *A bibliographical guide to Old English syntax*[45] which has saved much trouble for those who have had occasion to work with the numerous small studies dealing with the subject. Lois Holladay has compiled a list of works entitled *English as an international language* (1926)[155] which will be found useful, and doubtless many have had occasion to use with gratitude the selected list of books given by Wyld in his *Short history of English* (1914).[90] Recently Hans Kurath has brought out "A bibliography of American pronunciation, 1888–1928," *Language*, 1929.[186] All of these that were available I have checked through in compiling my own *Bibliography of writings on the English language* (1927). Indeed, I have made careful use of any bibliography on the subject that I could find, and for that reason it is not likely, I believe, that any very important

books have been omitted which were published during the last century when bibliography-making has been making such rapid progress. It is for the period from the beginning of printing down to about 1830 that the most serious omissions may be expected. To find all the publications on the English language during those centuries would be hardly possible for one scholar, even in a lifetime perhaps. But it seemed best to make the list as nearly complete as possible and trust to the contributions of scholars working in special parts of the field to bring the book to a greater degree of perfection in later editions. And this expectation of future contributions has already found a splendid response in a long and very carefully prepared list of sixteenth-century books published by Arvid Gabrielson in the new Swedish journal, *Studia neophilologica*, in 1929.[183]

For the artistic study of the language, notably in speech training and the study of written composition, there seems to me less reason for attempting an exhaustive bibliography. Texts on rhetoric and composition come and go, year by year, with little that is new or of lasting importance. Several studies in the history of the subject provide, of course, workable lists of the earlier texts on speaking and writing English, notably Fritz's "Early American works on speech training" (1927),[158] Baldwin's *Medieval rhetoric and poetic* (1928),[165] Blanks's *Introductory study in the history of the teaching of public speaking in the United States* (1929),[181] and Leonard's *Doctrine of correctness in English usage, 1700–1800* (1929).[187] Mention has already been made of Clara Kuck's list of works on the "Correction of speech defects" (1929).[185] And for the student who desires to keep informed on the current output, the *Quarterly journal of speech* (Chicago, 1915 to date) will be found an excellent guide, and, to a more limited extent, the bimonthly *American speech* (Baltimore, 1925 to date).

For the general field of English literature there have been, of course, bibliographies from an early time. Perhaps one might

well start a list with John Bale's ambitious but very undependable *Catalogus . . . . scriptorum illustrium Maioris Britanniae* (1557–59).[2] Certainly Lowndes' *Bibliographer's manual of English literature* (1834)[5] should not be overlooked, and likewise Allibone's *Critical dictionary of English literature* (1871–72).[16] Gustav Körting's *Grundriss der Geschichte der englischen Litteratur von ihren Anfängen bis zur Gegenwart* (1887)[32] has been found so useful that five editions have been published, the last in 1910. It is largely superseded now by the bibliographies in the *Cambridge history of English literature* (1907–14).[71] No one-volume bibliography, of course, is adequate to contain all the titles that the *Cambridge history* gives. So I think the day of the one-volume bibliography of English literature is past, except that the selected list for the use of schools, such as Louise Pound's *The periods of English literature* (1910),[80] Cross's *List of books and articles, chiefly bibliographical* (1919),[101] and Schücking and Ebisch's *Grundlinien einer Bibliographie zum Studium der englischen Philologie* (1927),[164] will always be a very helpful adjunct to English teaching.

It is obvious that if the bibliographical matter of English literature has grown too greatly to admit of incorporation in a single volume or even several, it will be necessary to restrict our bibliographical studies more and more to periods, or types and forms, or to single authors or, possibly, at times, to groups of writers.

One of the earliest and most ambitious of our period bibliographies is Wülker's *Grundriss zur Geschichte der angelsächsischen Literatur* (1885),[29] which is at the same time a splendid chronologically arranged index to the history of early English philology. We have long needed a new edition of this, or, probably better, a new and up-to-date bibliography of the period. I have maintained for years a card bibliography of Anglo-Saxon literature and feel confident that the preparation of such a book would not be a very difficult undertaking. I have mentioned

Ayres's *Bibliographical sketch of Anglo-Saxon literature* (1910)[78] and Threlkeld's *Bibliography of translations* (1921).[112] A few lists of works treating of single authors, such as Mary Medlicott's *Alfred the Great* (1902),[61] have appeared; but on the whole the bibliography of the earliest period of English literary history has been neglected for some years.

The Middle English period is now very well provided for in Brown's *Register of Middle English religious and didactic verse* (1916–20),[94] Wells's *Manual of the writings in Middle English* (1916)[98] with its four supplements bringing it down to July, 1929, and the Tucker and Benham *Bibliography of 15th century literature* (1928).[178] Moreover, special authors have been taken care of bibliographically, notably Layamon by Monroe (1908);[75] Wyclif by Shirley (1865)[13] and Thompson (1884);[28] Chaucer by Jewett (1896),[46] Hammond (1908),[74] Spurgeon (1913–25),[89] and Griffith (1926);[154] Caxton by Blades (1861–63),[10] De Ricci (1909),[77] and numerous others. In addition to these, Geddie has provided *A bibliography of Middle Scots poets* (1912).[87]

Naturally the later periods of English literary history present even greater difficulties for the makers of period bibliographies, not only because of the richer and more abundant literature, but also because of the greater popularity of those periods which do not offer to students so many linguistic challenges. So far no one, I believe, has had the courage to undertake to compile a bibliography of the English Renaissance literature, or Elizabethan literature, which would be exhaustive and historical. By means of the annual lists started by Graves and continued with increasing thoroughness by Craig, *Recent literature of the English Renaissance* (1922 to date)[114] the student is managing to keep his head above water in the flood of recent publications pertaining to this period of English literature. Mary A. Scott's *Elizabethan translations from the Italian* (1895–99)[43] offers a very useful guide to a limited part of Elizabethan literature, and there are bibliographies for Spenser by Carpenter (1894, and

much enlarged in 1923)[41] and by Alice Parrott (1928);[174] for Samuel Daniel by Sellers (1928);[177] for Ben Jonson by W. T. Ham (1916);[95] and for Shakespeare by Ingleby (1874),[18] by Furnivall *et al.* (1886),[30] by Lee (1910),[79] by Jaggard (1911),[83] by Meyer (1915),[93] by Sellers (1923),[126] and by Babcock (1929).[180]

For the next period Hebel and Patterson's *English seventeenth century literature* (1929)[184] should prove useful. Bibliographies of Thomas Heywood by Clark (1924)[132] and of Sir Thomas Browne by Keynes (1924)[136] are worthy of mention. Crane's *English literature, 1660–1800: A current bibliography* (1926 to date),[153] like Craig's for the earlier period, will keep the student informed of current publications; but I do not know of any outstanding bibliographical work that one can consult for publications prior to 1926, except, perhaps, the *Cambridge history*.

A greatly enhanced interest in the eighteenth century has recently begun to evoke bibliographies for the use of the scholar working in that part of the field, Williams' *Seven eighteenth century bibliographies* (1924)[140] deals with Armstrong, Akenside, Goldsmith, Shenstone, Collins, Churchill, and Sheridan. Special bibliographies have been published, also, for Pope by Griffith (1923–27, incomplete),[122] for Samuel Johnson by Courtney (1915),[91] and for Goldsmith by Scott (1928).[176] Within the last decade there have been compiled bibliographies for Scott by Caplan (1928),[166] for Jane Austen by Edmonds (1925),[144] for Shelley by Granniss (1923),[121] for Carlyle by Dyer (1928),[167] for Trollope by Sadleir (1928),[175] for George Eliot by Muir (1927–28),[172] for Samuel Butler by Hoppé (1925),[146] for Lewis Carroll by Williams (1924),[141] and for J. A. Symonds by Babington (1925).[142]

Treating, for the most part, of slightly later authors are Henry Danielson's *Bibliographies of modern authors* (1921)[106] and its sequel, C. A. and H. W. Stonehill's *Bibliographies of modern authors* (2d ser., 1925).[150] Manly and Rickert's *Contemporary*

British literature (1921)[110] has proved so useful that a new and greatly enlarged edition was brought out in 1928. A recent publication that promises to be equally useful is Cutler and Stiles's *Modern British authors: Their first editions* (1930).[189] And along with these general bibliographical guides to modern English literature have appeared, within the last decade, with one exception, bibliographies of Barrie by Garland (1928),[169] of Bridges by Danielson (1921),[107] of Conrad by Wise (1920),[105] of Austin Dobson by Alban Dobson (1925),[143] of Norman Douglas by McDonald (1927),[161] of Galsworthy by Marrot (1928),[171] of Hardy by Webb (1916),[97] of Kipling by Martindell (1922)[116] and also by Livingstone (1927),[160] of D. H. Lawrence by McDonald (1925),[148] of Machen by Danielson (1923),[119] of Meredith by Forman (1923),[120] of George Moore by Danielson (1921),[108] of Shaw by Wells (1925-28),[151] of H. G. Wells by Chappell (1924)[131] and again by Geoffrey Wells (1925),[152] and of Yeats by Symons (1924).[139]

A steadily growing interest in American literature has resulted in some very good bibliographical work of late. Outstanding in importance, perhaps, is E. E. Leisy's annual *Materials for investigation in American literature* (1926 to date).[156] Some excellent bibliographies of earlier authors have been brought out, especially a little collection by Houghton Mifflin and Company, including one of Hawthorne by Browne (1905),[65] of Emerson by Cooke (1908),[73] of Holmes by Ives (1907),[69] of Lowell by Cooke (1906),[66] of Thoreau by Allen (1908),[72] and of Whitman by Wells and Goldsmith (1923).[128] A bibliography of Whitman was also published by Shay (1920).[104]

For the more recent American writers Manly and Rickert's *Contemporary American literature* (1922)[115] will be found a very convenient guide. Of single authors I shall make no attempt to give a complete list but merely note in passing bibliographies of Cabell by Holt (1924),[135] of Stephen Crane by Starrett (1923),[127]

of Richard Harding Davis by Quinby (1924),[137] of Dreiser by McDonald (1928),[170] of Hergesheimer by Swire (1922),[117] of Carl van Vechten by Scott (1924), and of Edith Wharton by Melish (1927).[163] It should be noted that of the last group named, all but two are comprised in a series entitled "Centaur bibliographies of modern American authors," published during the last decade by the Centaur Book Shop of Philadelphia.

Next to specialization in the study of the literature of one of the periods of English literary history or of some one outstanding author such as Shakespeare, Chaucer, Milton, or Spenser, an obvious and hence an earlier method of limitation was by forms or types of literature, particularly the novel, the metrical romance, the ballad, the lyric, biblical translation, or the drama. Numerous bibliographical helps have been made for specialized research in these subdivisions of the field of English literary research, and I shall not endeavor to go very thoroughly into the bibliography of forms and types of English literature. Northup's *Register* is especially rich in such titles, and, of course, the *Cambridge history*.

For the novel one might mention P. Russell's *Guide to British and American novels* (1894),[42] E. A. Baker's *Guide to fiction* (1902)[58] and also his *History in fiction: A guide to the best historical romances, sagas, novels and tales* (1907),[68] Nield's *Guide to the best historical novels and tales* (1902),[62] so useful that five editions have been called for down to 1929, Clapp's *Bibliography of English fiction in the 18th century* (1911),[82] and Buckley and Williams' *Guide to British historical fiction* (1912).[85] For the short story indexes have been published by Firkins, *Index to short stories* (1915),[92] and by Hannigan, *Standard index of short stories, 1900–1914* (1918).[100] Charles K. Adams' *Manual of historical literature* (1882)[25] has undergone several revisions and has been made increasingly useful, both for history and for literature students. For the English romances a *Catalogue of romances in the Department of MSS. in the British Museum*,[27]

published by Ward and Herbert from 1883 to 1910, has long been one of the mainstays of students of Early English literature although in later years Miss Billings' *Guide to the Middle English metrical romances* (1901)[54] and more recently Laura A. Hibbard's *Mediaeval romance in England* (1924)[134] have to a certain extent rendered the earlier work unnecessary. For the later prose romances Esdaile's *List of English tales and prose romances printed before 1740* (1912)[86] is an indispensable work of reference. The study of the earlier English ballads has lately been greatly aided by the publication of Rollins' *Analytical index to the ballad-entries (1557–1709) in the registers of the Company of Stationers of London* (1924).[138] Quite early Carpenter published his useful little *Outline guide to the study of English lyric poetry* (1897),[49] and in the more recently published studies of the English lyric much useful bibliographical information has been provided. But since the activities of Carleton Brown in the field of the Middle English religious and didactic verse have provided a wealth of new material for study, it has become increasingly desirable that someone should make a thoroughgoing and scholarly bibliography which would give the student a better grasp of both the Middle English and the later development of lyrical verse in England. In order to get at the texts comprised in the many manuscript collections of the later Middle English period, I know of no method except to make a laborious bibliographical research and compile from Brown's *Register* and elsewhere the necessary guide.

Naturally, bibliographical surveys of the English Bible got under way quite early, as English bibliography goes. Henry Cotton's *Editions of the Bible and parts thereof*[3] was published in 1821 and re-edited in 1852. Besides Prime's *Fifteenth century Bibles* (1888)[35] and Darlow and Moule's *Historical catalogue of the printed editions of Holy Scripture in the Library of the British and Foreign Bible Society* (1903),[64] I have already mentioned the catalogue of the *Cardiff public libraries Bible ex-*

hibition (1911)[81] and Anna Monrad's *Catalogue of an exhibition of books, etc.* (1911).[84] In Northup's *Register* numerous others will be found.

Probably no one form of English literature has exercised the scholar as much as the drama. With the comparatively early interest in Shakespeare's plays there grew up also an interest in contemporary Elizabethan drama, and gradually this spread to other periods of English dramatic history. J. O. Halliwell-Phillipps published in 1860 his *Dictionary of Old English plays*,[9] and since that time there have appeared as guides for the student Bates and Godfrey's *English drama, a working basis* (1896),[44] Tolman and Moore's *Select bibliography of the English drama before Elizabeth* (1896),[47] Greg's *List of English plays written before 1643* (1900),[52] Clarence's *Stage cyclopaedia* (1909),[76] Leach's *Union list of collections of English drama in American libraries* (1916),[96] Albright's *Dramatic publications in England, 1580–1640* (M.L.A. monograph, 1927),[157] and others so numerous that Northup has devoted twenty-five pages of his *Register* to bibliographies of the English drama alone.

Besides teaching the facts of the history of the English language, the art of speaking and writing English well, and the understanding and appreciation of English and American literature, the twentieth-century ideals of scholarly thoroughness and scientific accuracy have gradually forced the university professor of English to spend a great deal of time with that other contemporary literature of the various periods of literary history which constitutes the backgrounds of the English literature of these periods. Not only does one read the writings of Chaucer, for example, but if he be endowed with the proper scholarly curiosity, he searches for the contemporary writings on religion, law, science, etc.; he reads lyrical and philosophical literature of Chaucer's time and that immediately preceding; he tries to reconstruct the conditions of life and culture that made Chaucer, and often much of his course of study is devoted to the

backgrounds of the literature rather than to an appreciative reading of the literature itself. Indeed, some of us have gradually come to feel that we have been carried a little too far in this direction and that it is about time that the study and teaching of the backgrounds of English literature be placed upon a workable basis of such sort that the attention of the student can be kept more steadily focused on the literature itself. To a group of us at Stanford University one important step toward the attainment of this better state of affairs seems to be the preparation of convenient bibliographies which will guide student and teacher expeditiously and efficiently to the various kinds of background literature that he may need or desire to use in getting a clearer understanding of a given author and his times. Since we have all collected bibliographical matter of this kind for years in our studies of the later Middle English and the Renaissance literature, we have projected a *Bibliographical guide to the backgrounds of English literature from Chaucer to Milton* which we hope may be found useful in relieving the student of English literature of some of his burden of collateral research. It is true that some such works already exist for the various subjects, but seldom of a sort well adapted to the needs of a student of the English language and literature. I have used with great satisfaction Charles Gross's *Sources and literature of English history from the earliest times to about 1485* (1900; 2d ed., 1915),[53] when I have had occasion to look up contemporary materials bearing upon the history of that period; there are, of course, bibliographical guides for other background subjects as well. But there is certain to be in them all much matter not needed by the student of English literary history. Moreover, it should be possible to bring together and classify all the background materials of the various contemporary writings on law, religion, history, medical lore, superstition and philosophy, political theory and economic practice, educational practice, etc., in such form that the student of English literature can find

quickly and surely the guidance that he needs when he has occasion to go afield in search of background materials contained in those contemporary treatises of any period which would set forth the life and thought of the period. If our immediate project should work out successfully, it is conceivable that before many years groups of scholars working in the various periods of English literary history may so collaborate that there may be available a series of bibliographical guides of this sort covering the entire range of English literary history.

I trust that in advocating the compilation of suitable bibliographical guides for all the important aspects of the study of English I shall not appear to be promoting a royal road to learning in English, wide and smooth and with no remaining difficulties for the student. I am sure that anyone who thoroughly appreciates the amount of the published materials with which the student has to work in this year of 1931, as I have attempted to demonstrate it in the earlier portion of this paper, will recognize that if the present-day student of English is to keep his head above water, he must have some assistance of a bibliographical character. Moreover, much dead wood accumulates in the course of a generation, and even the little that really lives from decade to decade becomes a somewhat imposing amount after a few decades. So it is not to relieve the student of bibliographical research that I would map out the field and prepare for him bibliographical guides, but rather to save him much preliminary uncertainty, of wandering through dead woods, and to give him up-to-date methods of appraising the old and keeping up with the current output in his chosen field of work. A certain technique is needed both in the compilation of a bibliography of a given subject and in the appraisal of the new publications that pour from the presses so inexorably, day by day, week by week, year after year, If we could just have some sort of publishing moratorium, during just one year, with no new publications to look after, no machine-gun barrage of articles

in learned journals, we might stand some chance of catching up a little in this mad bibliographical scramble. But since we cannot hope for such a rest, the student must learn to appraise the old, on the one hand, while, on the other, he takes account of the new book, pamphlet, article in learned journal, whatever it may chance to be. The modern student must make his special bibliographical studies from time to time as he prepares for special pieces of research, but he must never for a moment lose track of the current output in his chosen field of work.

For the bibliographer who is preparing bibliographies for the use of the student of English, certain difficult problems arise. How, for example, can a bibliographical guide be kept fresh and up to date when such a mass of new material accumulates each year? Is it better to bring out supplements periodically, as Wells has been doing for his *Manual*, or is it better to leave the student to depend for a time, a period of years, on the annual bibliographies and other helps, and then re-edit the entire book or else add a more elaborate supplement? There are unfortunate features to either plan of procedure; too many supplements become a nuisance after a while because one has to look in so many different places before he can be certain that he has not missed anything of importance bearing upon the point under consideration; on the other hand, it is embarrassing to ask the public to put aside a costly first edition and buy an even more expensive new edition of a bibliography.

It is also a serious question sometimes just how far the bibliographer should defer to the tastes and needs of the historically minded scholar in including the titles of older works whose intrinsic value has largely disappeared. Shall the bibliography be selective for the strictly modern student or shall it be exhaustive in so far as the compiler can make it so?

There should be, I believe, for every important part of the field of English study one exhaustive bibliography which can stand for years as an index to the history of the study of that

part of the field, whether it be of the language, of rhetoric in the earlier years, Old English literature, Middle English, the English Renaissance, the eighteenth century, or some other subject. And in order that this may be a complete index to the history of the study of the subject, all reviews must be indicated so that contemporary opinion may be made available. It is, of course, obvious that the arrangement will be chronological in such a guide for the historian of English study. And yet, there is no reason why a book so arranged should not be entirely usable for the student who wishes only the most recent publications on any given subject. Indeed, by the chronological arrangement he is assisted in finding the most recent works rather than hindered, as he might well be if confronted by an alphabetical list of some length. And, finally, corresponding to each exhaustive bibliography in each given portion of the field of English study there should be an annual bibliographical survey to aid the student in keeping up with the current output—a survey such as those conducted by Craig, Crane, and Leisy. If these annual bibliographical surveys are thoroughgoing and scholarly, they can always be compiled into supplements to be added to the more elaborate fixed bibliographies.

A Chronological List of Bibliographical Guides for the Study of English

While I have endeavored to list here all outstanding bibliographical guides, I have made no special effort to give an exhaustive list, first, because Northup has provided such a list down to 1925 in his *Register of bibliographies*, and, second, because it is almost impossible to find all the increasingly numerous separate bibliographies of English and American authors that have appeared since the publication of the *Register*. To save space, titles of single-author bibliographies have been, as a rule, much abbreviated.

1. Spingarn, J. E., *et al.* "Bibliography," *London Times literary supplement*, Jan. 19–March 22, 1928, pp. 44, 62, 80, 96, 112, 131, 150, 221.

2. Bale, John. *Scriptorum illustrium Maioris Brytanniae, quam nunc Angliam et Scotiam uocant: Catalogus, etc.* 2 vols. Basiliae: J. Oporinus, 1557–59.

3. Cotton, Henry. *Editions of the Bible and parts thereof, in English, from the year MDV to MDCCCL.* Oxford University Press, 1821. Pp. xxi+168.

2d. ed., 1852.

4. Watt, Robert. *Bibliotheca Britannica; or, a general index to British and foreign literature. Authors*, Vols. I–II; *Subjects*, Vols. III–IV. Edinburgh and London: Constable & Co.; Longmans, Hurst, *et at.*, 1824.

5. Lowndes, William T. *The bibliographer's manual of English literature containing an account of rare, curious and useful books published in Gt. Britain and Ireland.* 4 vols. London: Wm. Pickering, 1834. New and rev. ed. by Henry G. Bohn, 1857–64. 6 vols. Also reprinted, 1890.

First published as a serial; Part I is dated 1828.

6. Smith, John R. *Bibliographical list of all the works which have been published towards illustrating the provincial dialects of England.* London: J. R. Smith, 1839. Pp. 24.

7. Schmitz, Bernhard. *Encyclopädie des philologischen Studiums der neueren Sprachen.* Greifswald: C. A. Koch, 1859–64. Pp. xvi+474 and 3 suppl. New ed., 1876–77. 4 parts. Also 3 suppl. to new ed. pub. 1879–81. Also an "Anhang" to original edition by Hermann Varnhagen, *Systematisches Verzeichniss der auf die neueren Sprachen . . . . bezüglichen Programm-abhandlungen, Dissertationen und Habilitationsschriften* (1877). New ed. by Johannes Martin, 1893.

8. Corser, T. *Collectanea Anglo-poetica: or, a bibliographical and descriptive catalogue of a portion of a collection of Early English poetry, with occasional extracts, etc.*, "Publications of the Chetham Society," 1860–81, Nos. 52, 55, 71, 77, 91, 100–102, 106, 108, 111.

9. Halliwell-Phillipps, J. O. *A dictionary of Old English plays.* London: J. R. Smith, 1860. Pp. viii+296.

10. Blades, William. *The life and typography of William Caxton.* 2 vols. London: Jos. Selly, 1861–63. 2d ed., 1882.

11. Collier, John P. *A bibliographical and critical account of the rarest books in the English language, alphabetically arranged, etc.* 2 vols. London: J. Lilly, 1865. Also published in 4 vols., in New York, by D. G. Francis, 1866.

Based upon a catalog of the library of Bridgewater House published by Collier in 1837.

12. *Jahrbuch der Deutschen Shakespeare-Gesellschaft.* Vols. I ff. Berlin, 1865 to date.

Each annual number contains a very extensive Elizabethan bibliography.

13. Shirley, Walter W. *A catalogue of the works of John Wyclif.* Oxford: Clarendon Press, 1865. Pp. xix+75.

14. Schmitz, Bernhard. *Die neuesten Fortschritte der französisch-englischen Philologie.* Heft 1. Greifswald: Akademische Buchhandlung, 1866. Hefte 2–3. L. Bamberg, 1869–72.

15. Hazlitt, William C. *Hand-book to the popular, poetical and dramatic literature of Great Britain from the invention of printing to the Restoration.* London: J. R. Smith, 1867. Pp. 701.

16. Allibone, Samuel A. *A critical dictionary of English literature and British and American authors, living and deceased, from the earliest accounts to the latter half of the 19th century.* 3 vols. Philadelphia: Lippincott Co., 1871–72.

Reprinted in 3 vols. 1891–92 with 2-vol. supplement by John F. Kirk. Reissued in 1896. New ed., 1902, in 5 vols.

17. Skeat, W. W., Nodal, J. H., *et al. A bibliographical list of the works that have been published or are known to exist in manuscript illustrative of the various dialects of English*, "Publication of the English Dialect Society," Vol. I (1873–77). Pp. viii+201.

18. Ingleby, Clement M. *Shakespeare's centurie of prayse; being materials for a history of opinion on Shakespeare and his works, culled from writers of the first century after his rise.* London: Trübner & Co., 1874. Pp. xx+362.

2d ed., 1879, by Lucy T. Smith.

19. *Anzeiger für deutsches Altertum.* Berlin: Weidmann. Vols. I ff. (1875 to date).

Published as supplement to *Zeitschrift für deutsches Altertum*, but with separate volume numbering.

20. Arber, Edward. *A transcript of the registers of the Company of Stationers of London, 1554–1640.* 5 vols. London: [privately printed], 1875–77.

See article by E. M. Albright, *PMLA*, XXX (1915), 451–99.

21. Hazlitt, William C. *Bibliographical collections and notes on Early English literature.* 1st series, 1876; 2d ser., 1882; 3d ser., 1887; suppl., 1889; 2d suppl. 1892. General Index by William C. Hazlitt and G. J. Gray, 1893. [4th ser.] 1903. London: B. Quaritch.

22. Storm, Johan. *Engelsk Filologi: Anvising til et Videnskabeligt Studium af det Engelske Sprog for Studerende, Lærere og Viderekomme: I. Det Levende Sprog.* Pp. xiii+350. Christiania: Cammermeyer, 1879. Translated into German as *Englische Philologie: Anleitung zum wissenschaftlichen Studium der englischen Sprache. Vom Verfasser für das deutsche Publikum bearbeitet.* Heilbronn: Henninger, 1881. Pp. xv+468.

Rev. ed. published at Leipzig by O. R. Reisland. Part I, 1892; Part II, 1896.

23. *Jahresbericht über die Erscheinungen auf dem Gebiete der germanischen Philologie.* Vols. I ff. (1880, for 1879, to date). Recently published at Berlin and Leipzig by Walter de Gruyter & Co.

24. *Anglia: Anzeiger.* To Vols. IV–VIII of *Anglia*, but separately paged (1881–85). Paged as part of *Anglia*, Vols. IX–XII.

Later incorporated in the *Beiblatt zur Anglia.*

25. Adams, Charles K. *A manual of historical literature.* New York: Harper & Bros., 1882. Pp. xxxviii+665.

3d rev. ed., 1888. A completely new "Guide to hist. lit." issued in 1931.

26. Koch, John. *Die Chaucer-Literatur . . . . Literaturblatt*, III (1882), 224–28; VI (1885), 324–30. Also Herrig's *Archiv*, LXXXVII (1891), 77–78; *Englische Studien*, XXXVII (1906), 223–40; XLVI (1912), 98–114; XLVIII (1915), 251–81; *Beiblatt zur Anglia*, XXII (1911), 265–82; XXV (1914), 327–42; *Anglia*, XLIX (1925), 193–243, 384; etc.

27. Ward, H. L. D., and Herbert, J. A. *Catalogue of romances in the department of MSS. in the British Museum.* 3 vols. London: Longmans, Green & Co., 1883–1910.

28. Thompson, E. M. *Wycliffe exhibition in the King's Library.* Printed by order of the Trustees of the British Museum, 1884. Pp. xix+68.

29. Wülker, Richard. *Grundriss zur Geschichte der angelsächsischen Literatur mit einer Uebersicht der angelsächsischen Sprachwissenschaft.* Leipzig: Veit, 1885. Pp. xii+532.

30. Furnivall, F. J., *et. al. Some 300 fresh allusions to Shakspere from 1594 to 1694.* Gathered by members of the New Shakspere Society as a supplement to *Shakespeare's centurie of prayse* (2d ed., 1879). "New Shakspere Soc. Pub.," 4th ser., No. 3 (1886). Pp. xliv+393.

31. Elze, Karl. *Grundriss der englischen Philologie.* Halle: Niemeyer, 1887. Pp. vii+363.

2d ed., 1889.

32. Körting, Gustav. *Grundriss der Geschichte der englischen Litteratur von ihren Anfängen bis zur Gegenwart.* Münster: Schöningh, 1887. Pp. xvi+412.

2d ed., 1893; 3d ed., 1899; 4th ed., 1905; 5th ed., 1910.

33. Sonnenschein, William Swan. *The best books; a reader's guide to the choice of the best available books (about 25,000) in every department of science, art and literature.* London: Swan Sonnenschein, Lowrey & Co., 1887. Pp. xvi+713.

New ed., including about 50,000 books, 1891; 3d ed., including about 100,000 books, 1910 to date; 4 vols. but still incomplete.

34. Körting, Gustav. *Encyklopädie und Methodologie der englischen Philologie.* Heilbronn: Henninger, 1888. Pp. xx+464.

35. Prime, Wendell. *Fifteenth century Bibles: A study in bibliography.* New York: Randolph & Co., 1888. Pp. 94.

36. *Beiblatt zur Anglia: Mitteilungen über englische Sprache und Literatur und über englischen Unterricht.* Vols. I ff. (1890 to date). Halle: M. Niemeyer.

37. Northup, Clark S., *et al.* "Bibliography," *Dialect notes*, I (1890), 13–16, 80–83, 254–58, 344–47; II (1901), 151–78, etc.

38. Paul, Hermann, *et al. Grundriss der germanischen Philologie.* Strassburg: Trübner, 1891–93. 2 vols. in 3 parts.

2d ed., 1896–1901; 3d ed., in process, 1911 to date.

39. *Anzeiger für indogermanische Sprach- und Altertumskunde. Beiblatt zu den indogermanischen Forschungen*, Vols. I ff. Berlin and Leipzig, 1892 to date.

40. Anonymous. *Catalog of "A.L.A." Library: 5000 volumes for a popular library selected by the Amer. Library Assoc. and shown at the World's Columbian Exposition.* U. S. Bureau of Education, Whole No. 200 (1893). Pp. xx+592.

2d ed. for 8,000 vols., 1904. Suppls., 1912 and 1923. A "completely new, selective publication" for 10,000 books by Isabella M. Cooper, 1926.

41. Carpenter, F. I. *An outline guide to the study of Spenser.* Chicago: [No publisher], 1894. 24 pp.

42. Russell, P. *Guide to British and American novels.* London, 1894. Pp. 314.

43. Scott, Mary A. "Elizabethan translations from the Italian: The titles of such works now first collected and arranged, with annotatons," *PMLA*, X, 249–93; XI, 377–484; XIII, 42–153; XIV, 465–571. 1895–99.

Revised, in one volume, Boston, Houghton Mifflin, 1916.

44. Bates, Katharine L., and Godfrey, Lydia B. *English drama, a working basis.* Wellesley College, 1896. Pp. 151.

45. Chase, Frank H. *A bibliographical guide to Old English syntax.* Leipzig: G. Fock, 1896. Pp. 27.

46. Jewett, Sophie. *Chaucer: Outlines and references.* Pp. 32. Boston: S. G. Robinson, 1896. Revised and enlarged by Martha H. Shackford, 1918. Pp. 56.

Used at Wellesley College, Dept. of English Literature.

47. Tolman, A. H., and Moore, Ella A. *Select bibliography of the English drama before Elizabeth.* Pp. 16. Chicago: University of Chicago Press, 1896.

48. Breymann, Hermann. *Die phonetische Litteratur von 1876–1895: Eine bibliographisch-kritische Uebersicht.* Pp. 170. Leipzig: Deichert, 1897.

49. Carpenter, Frederic I. *Outline guide to the study of English lyric poetry.* Chicago: University of Chicago Press, 1897. Pp. iv+54.

50. *Aperçu bibliographique des ouvrages de philologie romane et germanique publiés par des Suédois*, in Stockholm "Studier i modern Språkvetenskap," Vols. I ff. (1898 to date).

51. Newman, Alice. "Index to subject bibliographies in library bulletins to December 31, 1897," *University of State of New York, State Library Bulletin, Bibliography*, No. 14 (1898), pp. 369–426.

52. Greg, W. W. *A list of English plays written before 1643 and printed before 1700*, "Bibliographical Soc. Monograph No. 5." London, 1900. Pp. xi+158.

53. Gross, Charles. *Sources and literature of English history from the earliest times to about 1485.* New York, etc.: Longmans, Green & Co., 1900. Pp. xx+618.

2d ed. rev. and enlarged, 1915.

54. Billings, Anna H. *A guide to the Middle English metrical romances dealing with English and German legends, and with the cycles of Charlemagne and of Arthur*, "Yale studies in English," No. 9. New Haven, 1901. Pp. xxiv+232.

55. Josephson, Aksel G. S. *Bibliographies of bibliographies chronologically arranged, with occasional notes and index*, "Bibliographical Society of Chicago contributions to bibliography," No. 1. Chicago, 1901. 2d ed.: Parts I–III in *Bulletin of Bibliographical Society of America*, II, 53–56; III, 23–24; IV, 23–27. Parts IV–V in *Papers*, VII (1913), 33–40, 115–24.

56. Keogh, Andrew. *Some general bibliographical works of value to the student of English.* Yale University, 1901. Pp. 14.

57. Anonymous. *List of bibliographies of special subjects.* Chicago: Printed by order of the Board of Trustees, John Crerar Library, 1902. Pp. 504.

58. Baker, E. A. *A guide to fiction.* London: Swan Sonnenschein & Co., 1902.

New ed., 1913.

59. Bethge, Richard, *et al.* "Ergebnisse und Fortschritte der germanistischen Wissenschaft im letzten Vierteljahrhundert," *Festschrift zur Feier des 25. Bestehens der Gesellschaft f. Deut. Philologie.* Leipzig: Reisland, 1902. Pp. x+lxviii+618.

60. Kroeger, Alice B. *Guide to the study and use of reference books; a manual for librarians, teachers and students.* Boston: Houghton Mifflin & Co., 1902. Pp. viii+104.

2d ed., 1908; 3d ed., 1917. Suppl. by Isadore G. Mudge, 1911, and 3d ed. revised by Mudge.

61. Medlicott, Mary. "Alfred the Great," *Bulletin of bibliography*, III (1902), 5–7, 23–25.

62. Nield, J. *A guide to the best historical novels and tales.* London: E. Mathews, 1902. Pp. viii+124.

5th ed. pub. by Macmillan, 1929.

63. Anonymous. *Bibliography of high-school reference books, recommended by the Committee on High Schools of the University of Colorado*, "Investigations of the Dept. of Psychology and Education of the Univ. of Colorado," Vol. I, No. 4 (1903). Pp. 83.

64. Darlow, T. H., and Mould, H. F. *Historical catalogue of the printed editions of Holy Scripture in the library of the British and Foreign Bible Society.* 4 vols. London: The Bible House, 1903.

65. Browne, Nina E. *Nathaniel Hawthorne.* Boston, 1905.

66. Cooke, George W. *J. R. Lowell.* Boston, 1906.

67. KITTREDGE, GEORGE L. *Some landmarks in the history of English grammars . . . . with illustrations from the collection of George A. Plimpton.* New York: Ginn & Co., 1906. Pp. 13.

68. BAKER, E. A. *History in fiction: A guide to the best historical romances, sagas, novels and tales.* 2 vols. London: Routledge, 1907.

New ed., 1914.

69. IVES, GEORGE B. *Oliver W. Holmes.* Boston, 1907.

70. SPARKE, ARCHIBALD. *A bibliography of dialect literature of Cumberland, Westmoreland and Lancashire North-of-the-Sands*, "Cumberland and Westmoreland Antiquarian and Archaeological Society Tract Series," No. 9. Kendal: T. Wilson, 1907. Pp. vi+49.

71. WARD, A. W., and WALLER, A. R. (eds.). *The Cambridge history of English literature.* 15 vols. Cambridge University Press; New York: G. P. Putnam's Sons, 1907–14.

In the back of each volume is a very extensive Bibliography arranged according to the preceding chapters. Index published in 1927.

72. ALLEN, FRANCIS H. *Walt Whitman.* Boston, 1908.

73. COOKE, GEORGE W. *Ralph W. Emerson.* Boston, 1908.

74. HAMMOND, ELEANOR P. *Chaucer: A bibliographical manual.* New York: Macmillan, 1908. Pp. x+579.

75. MONROE, B. S. ["Layamon Bibliography"], *Journal of English and Germanic philology*, VII (1908), 139–41.

76. CLARENCE, R. [pseud. of H. J. ELDREDGE]. *The stage cyclopaedia: A bibliography of plays.* London: The Stage, 1909. Pp. 503.

77. RICCI, SEYMOUR DE. *A Census of Caxtons*, "Bibliographical Society illustrated monographs," No. 15 (1909).

78. AYRES, H. M. *Bibliographical sketch of Anglo-Saxon literature.* New York: Lemcke & Buechner, 1910. Pp. 20.

79. LEE, SIR SIDNEY. *A Shakespeare reference library*, "English Association pamphlets," No. 15 (1910). Pp. 14.

2d ed. published as No. 61, 1925.

80. POUND, LOUISE. *The periods of English literature.* Lincoln, Neb.: University of Nebraska Press, 1910. Pp. 60.

81. ANONYMOUS. *Cardiff public libraries Bible exhibition, 1911: Catalogue of the Bibles exhibited in the reference library in celebration of the tercentenary of the Authorized Version.* Cardiff: [Printed by order of the Libraries Committee], 1911. Pp. iv+64.

82. Clapp, John M. "A bibliography of English fiction in the 18th century," *Bibliographical Society of America papers*, VI (1911), 37–56.

83. Jaggard, William. *Shakespeare bibliography*. Stratford-on-Avon: Shakespeare Press, 1911. Pp. xxi+729.

See Clark S. Northup's very careful and full criticism of this work in the *Journal of English and Germanic philology*, XI (1912), 218–30.

84. Monrad, Anna M. *Catalogue of an exhibition of books, portraits and facsimiles illustrating the history of the English translation of the Bible*. New Haven: At the Yale University Library, 1911. Pp. 14.

85. Buckley, J. A., and Williams, W. T. *A guide to British historical fiction*. London: Harrap, 1912. Pp. 182.

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